STUDYING
BEHAVIOR
IN NATURAL
SETTINGS

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Richard M. Brandt
University of Virginia

PREFACE

This book is designed to help remedy three deficiencies within behavioral science. The first such deficiency is the relative lack of carefully conducted, rigorously designed, empirical studies of human functioning in ordinary settings to complement the present heavy emphasis on laboratory research. Behavioral science research methodology has reached a point in its development where despite the greater number of uncontrolled variables naturalistic investigation should match, if not surpass, laboratory research in both quality and quantity. The claim for potentially qualitative superiority is based on validity and the closeness of research data to ultimate performance criteria.

In keeping with this first purpose, a rather complete coverage of natural istic research methodology is attempted. The relevance to naturalistic study of a wide assortment of theoretical positions is illustrated from operant condi tioning to self-theory. A taxonomy of various types of observational data uti lized by naturalistic researchers is presented, partly in response to the lack of such a taxonomy elsewhere. Dozens of important problems within the field of education are categorized and examples are cited of how they have been or might be studied naturalistically. Almost half of the illustrations come from other disciplines—sociology, industrial psychology, anthropology, social psy chology, management engineering, operations research, and other fields where naturalistic research is found. Even the ethical considerations that arise out of studying people behaving in their natural habitat, often unaware that they are the subjects of investigation, are dealt with at length.

Approximately half of the studies discussed in this book were conducted in schools, but other institutions are also represented because naturalistic methodology is equally relevant to many types of institutions and settings. Although more attention is paid to education, the discipline which the author knows best, a deliberate attempt is made to show the wide range of applica bility to many other fields. Whatever institution, therefore, happens to exemplify a given problem or technique should be considered only illustra tive of many institutions both of the same type (school A and school B) and of different types (school A and church A). Although each institution and each institution type are unique, all have many parallel features and problems. Much investigative procedure that fits one is suitable for another. Using com mon analytical patterns even serves to identify rather specifically those unique qualities of a given institution.

A second behavioral science deficiency that provides underlying rationale for this book is the paucity of research replication In too few instances are even important behavioral researches replicated Because populations usually differ somewhat from those in the original study and local institutional conditions are always partly unique institutional personnel need to repeat key research investigations as a basis for institutional improvement rather than to apply automatically the practical implications of research conducted elsewhere without further testing

The feasibility of such replications is indicated under the guise of routine institutional analysis by furnishing readers with literally hundreds of suggestions on how various aspects of institutional activity have been or might be studied Examples are drawn from a wide array of behavioral research literature and from numerous small-scale studies my students have conducted Occasionally, when a model for investigating a given problem is not readily apparent, I construct a hypothetical one by way of illustration A strong case is presented for the assignment of trained specialists in order to obtain regular feedback regarding institutional operations, which can be used continually in administrative decision making

The third major emphasis of this book is on observation as the primary approach to naturalistic research This emphasis counteracts the traditional tendency of behavioral scientists generally, and educational researchers particularly, to depend almost exclusively on test, questionnaire, and interview data Although such data are recognized as useful and receive coverage as supplementary information, stress is placed on systematic observation and recording as the major feature of studies in natural settings While there is abundant literature covering tests and other standardized instruments, few current measurement books present more than a superficial chapter or two on observation methodology

Partly because there are few texts that focus so directly on observational methods, this book may have substantial impact on several audiences Most directly interested should be administrators and especially research directors responsible for institutional analysis The numerous illustrations from schools and other institutions should serve both as models to be followed in local institutional analysis and as stimulators for self-designed studies The book should receive considerable attention in summer classes and during special training institutes where administrators are considering problems of research and evaluation Although behavioral sciences provide the underlying material from which the illustrations and theories were selected I attempt to reach practitioners without such backgrounds by minimizing technical jargon and statistical considerations.

A second potential audience comprises psychologists, sociologists, child development authorities, and other behavioral scientists Increasingly, basic

observational studies are being reported in their research journals Despite its practitioner-oriented features this book should fill a scientific void by presenting within one volume the principal behavioral research procedures whose descriptions are scattered throughout the vast literature available to these disciplines In some respects it represents a synthesis of previously unrelated materials It could easily become a textbook therefore for courses and programs designed to train people to use observation methodology in research and evaluation Such a course has been established at the University of Virginia for educational and school psychology graduate-level trainees an undergraduate specialists program has been started as well to help meet emerging needs for research personnel with intermediate level training As in medicine the need for trained assistants is gradually being recognized in many professions I have been developing a program for training pupil development specialists whose primary function is gathering and interpreting data regarding school operations and pupil learning one of the projected educational research specialities of the near future

This book may also prove useful in conventional undergraduate and introductory graduate courses in educational research tests and measurements and human development In most instances it is likely to be used as a supplement rather than a basic text because no attempt is made to provide complete coverage of traditional content For educational research courses numerous important topics are excluded including statistical and research design yet it demonstrates the use of theory in research presents types of data and data gathering procedures not currently found in many research books and provides literally dozens of research designs for students to examine critically

For tests and measurements courses matters of formal testing are omitted as well as the usual substantial coverage of questionnaires interview schedules personality measures and other standardized instruments One chapter only is devoted to these traditional measurement devices, primarily to illustrate their special functions in naturalistic study For students taking human development courses in which case study and observation assignments are made the book should prove valuable because of its data-gathering suggestions and its extensive use of behavioral science literature

This book is organized to present an array of techniques and applications in a variety of ways Among the first matters to be discussed are certain ethical considerations that must be faced by one doing naturalistic research Studying people without their knowledge or permission raises questions about invasion of privacy and the proper domain of researchers" Ultimately whatever is done must be sanctioned by society While Chapter 2 will be devoted to these ethical issues the reader may prefer to postpone considering them until he has examined some of the later chapters and has seen the kinds of studies presented

In Chapter 3 the matter of problem selection is discussed The possibility of an endless number of problems being selected must be resolved in favor of a few Along with problem selection, Chapter 3 also focuses on behavioral science theory as it can and should be related to naturalistic study Several promising behavioral science models are presented in digest form to illustrate their potential utility

Chapter 4 presents types of observational data and additional discussion of observational dimensions Examples of each kind of information are cited along with evaluative comments regarding their use As in other parts of the book, these examples have been selected from both widely recognized research investigations and unpublished student reports, to illustrate the breadth of possibilities

Chapter 5 is devoted to questionnaire, interview, and test information that has utility in naturalistic study as well as other research In this book these procedures are treated as supplementary devices to observational schemes, to be consistent with the biases already stated No attempt is made to treat them fully because many available measurement books give them ample coverage (Thorndike and Hagen, 1961, Anastasi, 1968, Horrocks, 1964) Discussion of them will be limited to ways of highlighting their effectiveness in natural istic settings

Chapter 6 presents several comprehensive naturalistic studies in some detail One report of a single youngster will be modeled after the "Maryland" case study procedures and shows the utility of anecdotal reporting, recurring pattern analysis, self-concept, and developmental task interpretation (Prescott, 1957) A second study focuses on the spontaneous activity of adolescent and preadolescent peer groups The interaction patterns of a 'Little League," an adult-dominated group, will be compared to those of truly autonomous peer groups A third case will be concerned with organizational patterns in the business world Supervisory relationships during the time when a supermarket chain was decentralizing administrative authority are also assessed The fourth report covers the study of a mass event, in this instance the October, 1969, student moratorium Participant observation techniques are described as they were applied in assessment of student responses

Chapters 7 and 8 illustrate the breadth of possibilities for naturalistic study They are focused specifically on school life Many outlines are presented of studies that have been or theoretically could be done on important problems Most of these studies are of either the *low low* or *low-high* variety in terms of investigators' manipulation of antecedent conditions and imposition of response units (see p 8) A few, however, exemplify considerable antecedent structuring but in such fashion as to maintain an overall lifelike quality to the investigation In Chapter 7 the focus is on student behavior and develop-

ment, whereas in Chapter 8 the emphasis is on his surrounding school environment

In some instances the primary value of particular studies may be an instructional one in drawing attention to selected features of school life These capsule reports might indeed be used as outlines for training exercises to be conducted by teachers and beginning research students

In other instances more substantial research efforts are reported Their inclusion suggests that they deserve replication in new settings as a basis either for institutional improvement or for establishing normative data and generality of findings

Chapter 9 stresses the nature of observers and a fast-growing technology of hardware and software that should make research efforts ever more challenging and worthwhile in the future.

Most books are the products of many people This one is no exception Impetus for the present volume came primarily from the many students who have turned in high-quality live-data projects for various courses I have taught through the years Their talent for conducting sound research was often found to be much greater than either they or their instructor had anticipated Several dozen such studies are cited illustratively at appropriate places in this volume. Where more than the bare idea of a particular research is described the student investigator is identified by name and also listed in a special section of the Bibliography

Numerous students enrolled in a course on Naturalistic Observation have provided helpful suggestions. Special thanks are extended to Walter Dotts Bonnie Pauzé and Mattice Ranney for their assistance in the final compiling and editing processes

It is not possible to identify all those whose ideas have directly or indirectly influenced me Certainly my former colleagues at the Institute for Child Study University of Maryland have played an immense role in shaping my ideas Many of my present colleagues have reacted to early drafts of chapters or otherwise led me to pertinent material I am also grateful to Dean Frederick R Cyphert for his continuing support and to the University of Virginia for its Sesquicentennial Scholars Program which provided me with time off from other duties to complete the manuscript earlier than would have been possible otherwise.

Special appreciation is expressed to Dale Harris whose encouragement and many excellent suggestions have had a most profound influence on the final product as well as to other reviewers of the final manuscript Whatever its weaknesses now they would have been much greater without their help It goes without saying that I assume full responsibility for whatever deficiencies still exist

Finally, appreciation is gratefully acknowledged to Patricia Blincoe for her faithful and expeditious typing of the entire manuscript, and to my wife and children, whose patience and understanding have been nothing short of miraculous

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CHAPTER 1

Naturalistic Study—
Nature and Need

Historically, as well as currently insights about human behavior have often been derived from observation of man in his natural habitats. The Platos, Rousseaus, Emersons, and other noted theorizers about the nature of man could have reached their conclusions only by observing his activity closely and questioning his thought. Modern man, also, is closely observant of the behaviors of others and governs his own actions accordingly. The butcher when he starts saving special cuts for a customer because he notices consistently she requests certain specifications in her meat orders. The school principal when he introduces a staggered recess schedule to diminish the noise and confusion he observes in the halls with everyone being let out at once, the policeman who watches for speeding motorists in the first stretch of relatively open highway following a congested narrow roadstrip where drivers' frustrations typically build up—all exemplify the millions of

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everyday instances of people operating on the basis of their own observations of other people's behavior

Laymen and professionals alike possess implicit, if not explicit, theories about human functioning, based extensively on their own past observations Mothers, for example, are generally more influenced in their minute-by minute decisions of how to treat their children by their own observations of what, seemingly, has and has not worked before than by what others say should be done Teachers, likewise, tend to alter teaching procedures almost continuously in accordance with their concurrent appraisals of pupil attention and performance A most natural human quality is to notice the behavior of others and react in accordance with how one interprets this behavior

Observation for Institutional Practitioners

Such observations, of course, are hardly scientific Their citation here is not to illustrate what should be done in developing an applied behavioral science, but merely to dramatize the idea that man constantly monitors the behavior of others and acts on the basis of his observations The institutional practitioner is no exception to this rule, even though, presumably, he has received a more solid exposure than the layman to a body of human behavior theory that tells him both what to look for and how to behave He can become more scientific in his observations, if he so desires, by systematically gathering and recording behavioral data for later perusal If he does so, he establishes a scientific basis for improvement of his institution

The importance of naturalistic observation lies not merely in providing the informal grounds for daily decisions or in assisting the local practitioner to test out in his own settings the findings and procedures of more basic research in order to see if, and to what extent, they are applicable Naturalistic observation in the field situation has also made and can continue to make a lasting impact on basic behavioral science itself, especially by serving to help generate hypotheses

Great advancements in behavioral science have often begun with empirical recording of what transpires in everyday circumstances Later reflection over such data has led to hypotheses that can then be tested under more rigorous controls than the field situation provides Although one does not see Freud's primary observed data too often, one does note from his biographers that he took copious notes of the sessions he had with his patients. Long before the hypotheses he developed were tested experimentally —many still have not been so tested—psychoanalysis had developed into a widely though not uniformally accepted body of theory and practice Like-

wise, while hardly scientific, observations of infants in orphanages having minimal interaction with adults (Ribble, 1943 Spitz, 1945, 1946) led to much speculation, some preliminary testing and considerable debate, but ultimately developed into experimental research on the nature of mother love (Harlow, 1958) Piaget's (1926) simple experiments and rather loosely structured observation of his own children in relatively free-play situations provided perhaps the most extensive body of theory about cognitive development in current existence The past decade has witnessed a veritable deluge of laboratory research aimed at replicating and extending his experiments by applying better controls and testing out the ideas first generated by him empirically from field observation

At the present time, however, behavioral science is sadly lacking in knowledge about the ordinary behavior of people in real life settings A survey of child development literature a few years ago (Wright 1960) revealed that only 8 percent of the 1409 empirical studies reviewed had utilized observational methodology Scientific psychology has been focused almost exclusively on those fragments of the environment that can be lifted from their usual contexts and manipulated in a laboratory setting Its preoccupation with laboratory experimentation has left it virtually without data on what people do every day (Barker, 1969) For the most part only the anthropologist and sociologist know something about life in ghettos and suburbs factories and offices, stores and homes, churches and schools Even these scientists have barely begun the task of procuring a realistic scientific picture of the ways of mankind

Most other sciences have produced massive amounts of details concerning the occurrence of phenomena in the world and universe In their handbooks and encyclopedias one can read for example, that potassium is the seventh most abundant element, constituting 2 59 percent of the igneous rocks of the earth's crust that it is widely dispersed in the oceans soils, plants and animals, and that soluble potassium salts are found in all fertile soils (*Encyclopaedia Britannica*, 1971) No similarly descriptive information is available in the literature of scientific psychology about playing laughing, talking, conflict, failure, being valued or devalued (Barker 1968 pp 2 3)

TYPES OF RESEARCH

Although exceptions can be noted, the restricted focus of most branches of psychology has been brought about by the preoccupation of investigators with laboratory experimentation Yet, it is only one of four major types of social science research Field experiments, field studies, and surveys are equally important (Kerlinger, 1964, p 375)

Laboratory Experiments

Special features of the laboratory experiment that have attracted psychologists include (1) easy isolation of research variables, (2) virtual elimination of the numerous extraneous situational influences that may affect dependent variables,[1] (3) random assignment of subjects and treatments, and (4) accurate measurement techniques In brief, the laboratory experimenter is able to manipulate those variables he chooses to alter and control those he wishes to hold constant In doing so, he is usually deprived of the advantage of being able to study the full range of independent variables that can be found in the outside world He is unable to *generalize* the results of his experiments very far from his artificially induced laboratory situation (Kerlinger, 1964, pp 379–380)

Field Experiments

Although not basically unlike the laboratory experiment, the field experiment 'is a research study in a realistic situation in which one or more independent variables are manipulated by the experimenter under as carefully controlled conditions as the situation will permit" (Kerlinger, 1964, p 382) Its advantages include closer approximation of real conditions and, as a result, stronger variables and greater external validity[2] than those of the laboratory experiment. Its primary disadvantage is loss of control over extraneous independent variables, a factor with which every field researcher must contend (Kerlinger, 1964, pp 382–383)

In some field experiments, subjects may not even be aware of the fact that they are participating in research, thereby enhancing the appearance of reality Verplanck (1955) was able, for example, to alter to which his subjects expressed opinions during normal conversation, without their awareness of being manipulated or subjects of research In the classic studies of Hartshorne and May (1928), the moral behavior of children was studied by exposing them to various temptations to cheat, lie, and display other patterns of dishonesty at school without their realizing that their behavior was being monitored

Field Investigation

In striking contrast to the two types of experimental studies discussed above are field studies, 'ex post facto scientific inquiries aimed at discovering the relations and interactions among sociological, psychological,

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[1] Dependent variables, also called *y* variables, are those treated as being consequent upon changes in one or more other variables The latter are called independent or *x* variables (English and English 1958)

[2] External validity is discussed on p 142

and educational variables in real social structures (Kerlinger, 1964, p 387) Ordinarily manipulating no independent variables, the field investigator examines and measures selected structural dimensions concurrently with various behavioral patterns found within the particular groups and situations chosen for study His purpose is to discover the precise status of existing phenomena and determine which variables are associated with each other

Naturalistic field studies, the central focus of this book have the advantage over other research types of being heuristic, highly realistic, relevant to important social problems, and oriented toward significant theoretical issues The immediate application of these studies to the solution of everyday practical problems is particularly desirable In addition the strength of variables can often be maximized more readily in the field than in the laboratory, although the experimenter may also have greater difficulty separating whatever variables are present (Kerlinger 1964, pp 389-391)

The weakness of many field studies is their ex post facto character The investigator must often content himself with studying relationships already in existence and can do little to bring about their change Cause and effect can probably best be inferred under this constraint by making similar studies of appropriate comparison groups or by identifying behavior similarities and differences in the phenomena under analysis at different points in time or under varying conditions The field researcher usually depends either on natural circumstances to produce the changes he sees or on the reforms of institutional operators responsible for the overall activities he studies

The experimental researcher on the other hand usually has more direct control over the variables that are to be manipulated He can hypothesize If x then y, and then test this conjecture by manipulating x to see if y occurs the field researcher often can only measure y (along with x) as it already exists (Kerlinger, 1964, p 390)

Related to this weakness is the relative lack of randomization in the real world Although subjects can often be drawn randomly from existing groups as in laboratory studies, the real world is generally made up of individuals who have already been preselected into groups and activities on the basis of characteristics other than those that the investigator is prone to study Thus, he can never be certain of causes, for example, by merely finding that men who have coronary attacks (y variable) have higher cholesterol counts (x variable) than those who do not Still other variables, not included in the investigation may have been the real causes for both the higher cholesterol levels and the heart attacks

The lack of control over all relevant variables and the incomplete randomization of subjects and treatments often lead to improper interpretation of results To counteract this tendency, Kerlinger (1964, pp 369-371) suggested the inclusion in ex post facto research of alternative x and y variables

and the testing of relationships of other plausible hypotheses as well as the primary ones

Alper, Blaine, and Adams (1955), for example, investigated the reactions (y variables) of young children from different social classes (x variable) to finger painting experiences To determine whether the reaction differences observed were probably a function of the messiness of finger painting rather than the general nature of "aesthetic production," the same assignments were made using crayons rather than finger paints In brief, a different set of y variables was used, this time with no social class differences being found between middle and lower-class children Kerlinger (1964, p 369) described this study as an example of ex post facto research, even though experimental manipulation was involved, because no manipulation of the independent variable (that is, social class) was possible and the children came to the study with their reactions ready made [a]

Survey Research

The fourth major type of social investigation is survey research Samples are selected from large or small populations to discern the incidence, distribution, and interrelations of variables, usually through the use of inter views and questionnaires and rarely with controlled observations (Kerlinger, 1964, p 393) An abundance of literature already exists on this type of in vestigation, which seems peripheral to the purposes of this volume because of the use of nonnaturalistic data-gathering instruments

Relative Value of Research Types

The arguments presented above regarding the strengths and weaknesses of each type of research endeavor should not be construed as favoring any one to the exclusion of the others Each has contributions to make to the overall world of behavioral science and its potential benefit to human welfare What laboratory research lacks in relevance to the important problems the world faces, it makes up for in the relatively greater trust one can place in its findings Where the field investigation misses attainment of rigorous control and certainty of interpretation, it more often focuses on sig nificant problems, and its findings seem more generalizable to real situations

Sharp differences often drawn between research types, furthermore, may not in reality be so distinct. Kavanau (1969), for example, provided an ex cellent illustration of using the laboratory as a field situation and his co-contributors Kelly (1969) and Menzel (1969) described instances in which field settings had been used experimentally Bijou, Peterson and Ault (1968)

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[a] A more complete outline of this study is presented in Chapter 7, pp 314–315

proposed an integration of descriptive and experimental field studies, since frequency-of-occurrence measures can be found in both

> Experiments are a part of the naturalistic endeavor, and not a thing in themselves   No observation or experiment is ever a 'completely objective, rigorously controlled, precise science, as some naturalists and experimentalists, respectively, seem to believe (Menzel, 1969, p 118)

Kaplan (1964, p 168) also viewed the distinction between the field and laboratory as one of degree

NATURALISTIC RESEARCH

Definition and Description

Undefined so far, the term *naturalistic research* carries with it several connotations Most simply, Willems and Raush (1969, p 3) refer to it as "   investigation of phenomena within and in relation to their naturally occurring contexts" Superficially viewed, such research is closest akin to the field study described by Kerlinger (1964), although field experiments might also qualify Whereas there may be some difficulty in discerning what are natural rather than artificially induced phenomena, The natural istic assumption, in any field, is that intrinsic orders exist 'out there and that these regularities will organize and drive events even though our theories take no notice of them ' (Gutmann, 1969, p 162) Naturalistic research is aimed at procuring data that will permit identification of these orders In Barker's (1965) terminology, nature is the inducer and the investigator is only a transducer

Despite common usage to the contrary, the term *natural* does not refer necessarily to the normal state of affairs, as specified by frequency-of-occurrence criteria Idiosyncratic behaviors and events are just as likely as modal ones to be studied naturalistically (Willems, 1969, p 46) Paradoxically, artificiality and naturalness of settings cannot always be used easily as criteria for determining whether or not a research subject is truly natural istic. The clinic office would seem to be an artificial setting for the mentally istic and physically well person to be found, but it is certainly a very natural place for the sick person The cocktail party, factory office, and athletic field all represent artificial situations for some people, where natural (that is, typical) behavior is not evident The psychology laboratory, on the other hand, is a perfectly natural place for the college sophomore majoring in that subject, although a highly unusual setting for most people

Several contributors to *Naturalistic Viewpoints in Psychological Research*

(Willems and Raush, 1969) seem to agree that such research is characterized more by what the investigator does than by the phenomena he is studying Sechrest (1969, p 152) highlighted this point by recommending the use of measures for studying social attitudes that "(a) do not require the cooperation of the subject, (b) do not permit the subject's awareness that he is being measured or treated in any special way, and (c) do not change the phenomenon being measured'

After reviewing literature on research strategies, Willems (1969) proposed a two-dimensional descriptive model for differentiating research activities One dimension describes the degree to which the investigator manipulates the antecedent conditions of the behavior studied The other, less commonly recognized by other authorities, describes the extent to which the investigator imposes restrictions on measured responses

If someone at a large civic meeting merely tallied a seating chart each time a person spoke in an effort to determine the extent of audience participation this study would be characterized by Willems as *low* on his *antecedent-manipulation dimension* but *high* on the *response unit-imposition dimension* Barker, Dembo, and Lewin (1941) exemplify the reverse conditions in an interesting study of frustration and regression They carefully manipulated the antecedents of play and goal blockage, but then made elaborate narrative records of children's behavior from which to draw inferences about frustration and constructiveness of play

Although both types of studies are included in this book because their settings were presumably natural rather than artificial in the minds of respondents,[4] the most fundamental type of naturalistic research, according to Willems, is *low* on both dimensions (Willems, 1969, p 49) Laboratory research, on the other hand is quite clearly *high* on both dimensions

In relation to the two-dimensional model proposed by Willems, this book is designed to cover a more varied array of research activity than the *low low* types he characterized as naturalistic Certainly, these types are given substantial treatment in Chapter 4, especially in the section on Narrative Data, as well as in many of the illustrative case materials presented throughout the book But perhaps even more extensive coverage is given to studies of the *low high* variety, that is, those in which only selected aspects of ongoing operations are studied by the systematic recording of limited

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[4] In the Barker, Dembo and Lewin experiment, the setting though manipulated, took on the basic appearance of a preschool play area, and the dividing screen separated children from toys for given periods of time in a manner not unlike the common restrictions established by teachers when they direct children's activities The children were still free to respond to the play situation restricted or unrestricted, in whatever ways seemed appropriate to them

kinds of information, but which are studied in natural settings The investigator severely imposes restrictions on the responses he measures Both types of research, low-low and low-high would seem to fit the most basic definition of naturalistic research mentioned earlier namely the study of phenomena in their naturally occurring contexts (see p 7) The difference between these two research types lies in the scope of investigative activities and their ultimate purposes These matters will be discussed rather thoroughly in Chapter 3 in relation to the use of theory in research design

Included also within the scope of this volume are studies in which settings and the antecedent conditions of behavior themselves are manipulated to some extent, usually not directly by the investigator but by institutional personnel, either on their own initiative or in collusion with the investigator for his purposes (see Chapter 4, section on Contrived Situation Responses) As far as research participants are concerned however such intrusions lie within the ordinary range of responsibilities of institutional personnel and represent no more than the typical changes one might expect in ordinary life Even if the investigator subtly steers a casual conversation into certain directions (that is, holds concealed informal interviews see Chapter 5 section on Conversational Interviews) in order to elicit certain types of responses research participants presumably view the overall situation as a routine conversation and remain unguarded in their responses The investigator seems to be playing an unobtrusive role and his research purposes are inconspicuous Although it is theoretically possible to study some naturalistic phenomena within the confines of a laboratory setting[3] the bulk of naturalistic research must be conducted outside the laboratory either with no manipulation or only ordinary institutional alteration of antecedent conditions

Thus the focus of this book is on a range of phenomena outside the laboratory and away from obvious measurement types of settings (for example, test taking or questionnaire responding) and in the everyday world in which people are found most of the time It is the investigators task to unravel this real world and identify the behavioral patterns occurring within it His purpose may be to study the largest possible segments of the total happenings (Barker and Wright 1951 1954 Barker and Barker 1961 Barker et al 1961) or to investigate only limited patterns within them as he defines his purposes rather precisely

References to the important works of Barker and his colleagues as cited above should not be construed as acceptance of their techniques as the only vehicles for studying total happenings Instrumentation recently developed by others suggests expanding possibilities for studying at once many variables being

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[3] In laboratory research the subjects are often unaware of the true measures being used on them

in complex situations Medley (1969) and Medley et al (1971) have tested out a highly sophisticated interaction system for observers to use in instantaneous classification of many important classroom dimensions, including characteristics of teacher style, pupil behaviors, and many setting features Smith and Geoffrey (1968) have employed anthropological techniques in a highly sophisticated manner to obtain perhaps the most intensive case materials on classroom happenings yet published The utilization of remote transmitters, video-taping equipment, and lapsed time photographic techniques illustrates the possibilities inherent in modern photographic and electronic-recording apparatus The emergence of the computer for transposing and processing massive amounts of data makes even anecdotal material less cumbersome Whether one is interested in small bits of ongoing events or total happenings, enormous research opportunities lie ahead

NATURALISTIC TRENDS

A digest of recent trends in behavioral research conducted outside the laboratory may serve to highlight these possibilities The work of the Barker group (Barker, 1963, Barker, 1965, Barker and Gump, 1964, Barker and Wright, 1954, Barker et al , 1961, and Barker, Barker, and Ragle, 1967, among others) stands out as the most complete overall attempt at describing in moderately objective detail the full range of behavior and behavior settings in small towns (Midwest, Kansas, and Yoredale, England) and in the institutions of those towns (churches and schools especially) Illustrative of their many findings resulting from over two decades of research are the following (Barker, 1968, p 141)

1 (a) Two-thirds of the behavior units of the children of Midwest receive some input from persons or animals, that is, they are social units, in three fifths of these social units the person providing the input is an adult, and in two-thirds of the units, a female, animals are the source of 3 percent of the social input, (b) adults dominate children in about one-third of the units to which they supply input, children dominate children in one-sixth of the units to which they provide input, (c) the input to two thirds of the social units is compatible with the child's behavior in the unit (Barker and Wright, 1954 Wright, 1967)

2 Disturbances, that is, unpleasant disruptions in a child's experience as indicated by his expressive behavior, occur at a median rate of 5 4 disturbances per hour, half of these disturbances are evoked by adults, and 5 percent of them are occasioned by the loss of something the child values (Fawl, 1963)

3 The units of Midwest children are of shorter duration, on the average,

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than those of comparable Yoredale children (Schoggen, Barker, and Barker, 1963)

4 Yoredale adults provide children with devaluative social inputs four times as frequently as Midwest adults (Barker and Barker, 1963)

Other interesting findings include

5 Children often change their behavior drastically from one setting to another, for example, from library to drugstore to baseball game

6 The behavior of any two children in the same setting is likely to be more similar than that of either one of them in different settings

7. There is generally more congruence between the whole course of a child's behavior and the particular locale in which it occurred than between parts of his behavior and particular inputs from the locale" (Barker, 1968, p 152)

8 Undermanned settings tend to impose greater forces on their inhabitants in more varied directions than do optimally manned settings (Barker, 1968, p 185)

Ecological Psychology

What started as purely narrative descriptions of life in a small town over 20 years ago has gradually turned into a full blown theory of ecological psychology The characteristics of behavior settings and environmental input are as important in this psychology as behavioral units and organismic processes, both central and peripheral The stream of behavior is analyzed for its behavioral episodes, each one analyzable in terms of social inputs and environmental force units (Barker, 1968, pp 146–151) Ecological psychology is basically a transducer science in which investigators record behavior and its conditions as they exist without intervention or manipulation by the researchers

Anthropology

A second major trend can be found in the work of anthropologists The extensive field record methodology instituted by Boaz (1921), Benedict (1934), Mead (1935), and others in their studies of primitive cultures has gradually been extended to the investigation of community life (for example, Warner and Lunt, 1941), the work world (for example, Dalton, 1959), educational institutions (for example, Hollingshead, 1949, Iannacone and Lutz 1969, Smith and Geoffrey 1968, Warren, 1965), and organizations in general (White, 1969) Empirical data not only provide precise descriptions of existent behavioral patterns in such settings, but also serve as bases for increasingly theoretical premises being tested to account for underlying relationships within communities and institutions

Industrial Psychology

A third trend is evident in the field of industrial engineering. Scientific measurement of man's working patterns was begun early in the twentieth century through the time and motion studies of factory operations by such persons as Frederick W. Taylor (1911) and Frank and Lillian Gilbreth (1917). The stopwatch became commonplace on the shop floor as a means of determining performance patterns of machine operators, as did flow charts for the assessment of operations necessary to produce finished products most efficiently from raw materials. As data began to accumulate, statistical averages of the time taken to accomplish each basic movement replaced the stopwatch as the major criterion for analysis of work performance (Karger and Bayha, 1965). Handbooks containing elaborate tables of these *standard data* were developed to cover all specific work motions (for example, reach or grasp under varying conditions of object weight, distance from objects, and other conditions) (Maynard, 1963). Methods and time-measurement experts studied operations by breaking down the basic motions required and assigning these predetermined standard data to them. Work performance standards were established on the basis of the total number of motions necessary to complete overall tasks and standard data summations.

In recent years work measurement procedures have been applied to office operations as well. Clerical tasks in banks, insurance offices, and thousands of 'white-collar' settings have been analyzed in order to increase organizational efficiency. Results such as the following have been reported (Payne, 1967)

1. At the end of a three-year period, one New York company had increased its volume of business by 30 percent although it employed 700 fewer people than at the beginning of the period.

2. Another company increased its overall clerical work load by 28 percent with 141 fewer people after installing a work measurement program for 18 months.

Behavior Modification

Computerization of data has made it possible, furthermore not only to keep track of work performance precisely, but also to monitor and assess the total operations of entire organizations. Systems analysis is fast becoming the major conceptual model for studying the complex institutions of modern society. As part of overall systems people (operators) perform tasks that need to be identified and described in relation to input and output data. Human engineers analyze tasks in terms of what operators must perceive, discriminate, decide, and manipulate in order to complete their functions (Meister and Rabideau 1965). The combined efforts of systems analysts and

industrial engineers have provided a scientifically precise description of the working behavior of many men and women

A fourth important trend is the activity of change agents especially those practicing behavior modification or operant conditioning techniques in every day settings Here is an instance in which techniques originally developed in the laboratory are now being applied widely in naturalistic settings Classical conditioning techniques, on the other hand have not yet been transferred from the laboratory to the field to any great extent

In the past, change agents in education industry, and commerce have hardly been scientific or even data conscious They have attempted to improve operations by inspecting them and making recommendations for change primarily on the basis of what they have seen or on what has been accomplished elsewhere This highly subjective approach is anything but characteristic of today's behavior modification practitioner as he views an ongoing operation in need of improvement

His first task is to specify operation objectives in behavioral terms If his intent is to increase the amount of cooperative play among nursery school children, for example, he first needs to define in precise behavioral terminology what is meant by cooperative play In one such study, Hart et al (1968, p 74) defined it as follows

> pulling a child or being pulled by a child in a wagon handing an object to a child or pouring into his hands or into a container held by him helping a child by supporting him physically, or bringing putting away or building something (verbalized as expressly for him sharing something with a child by digging in the same hole, carrying the same object, painting on the same paper or from the same paint pot, or adding to the same structure or construction (such as a chain of manipulative toys or a block house)

Specific behaviors are then counted as they occur in ordinary contexts prior to change attempts A base-line rate is thus established against which later performance can be compared Next, change is attempted primarily through reinforcement of correct responses and frequency counts are continued to assess its effectiveness Experimental control of dependent variables is tested from time to time by reversing what is reinforced and determining if target behaviors approach base line rates again

The contributions of behavior modification specialists to naturalistic research are several (1) specification of research objectives in behaviors that can be readily counted (2) simple formats and procedures for recording and plotting data for easy interpretation, (3) single subject designs where control is vested not in randomization and comparison groups but in manipulating target behaviors (including reversal effects, and comparing resultant behavior frequencies with base-line rates

Perusal of current behavioral science literature cannot help but impress one with the extensive utilization of behavior modification techniques in all kinds of settings and for many purposes In the *Journal of Applied Behavior Analysis*, various types of school behavior have been reported as the targets of such techniques. Behaviors that have been manipulated successfully in naturalistic settings include (1) the use of descriptive adjectives in spontaneous speech of disadvantaged, preschool children (Hart and Risley, 1968), (2) appropriate rather than inappropriate classroom behavior (Madsen, Becker, and Thomas, 1968), and (3) attentiveness (R G Packard, 1970)

Evaluation

Still another trend enhancing the naturalistic study movement is found in modern assessment and evaluation practices Operational analysis in industry has already been mentioned However, many public institutions such as schools, prisons, and hospitals have also come under close scrutiny in recent years in terms of the people served and whether or not their functions are being realized sufficiently well Increasingly, practitioners are being held accountable for expenditures of time and money

In education, particularly, a vast new group of specialists is concerned principally with the task of evaluating ongoing school activities The distinction between research and evaluation is not always a clear one, since evaluation seems to be focused on more of the 'intangibles' of education (for which hard data are difficult to procure) even though there is emphasis also on achievement test scores and other traditionally accepted data Evaluators are also less concerned about conducting experimental and control group treatments according to predesigned specifications until the results are in and they are more likely to make program changes continuously as the need for changes becomes clear

Although evaluation practices have often been too loose to meet research specifications, they are becoming increasingly sophisticated with improvements in data sources and measurement techniques Like other human engineers, education evaluators are harnessing the capabilities of the computer and utilizing systems models in an attempt to take into account the hundreds, perhaps thousands, of variables that affect the educative process The evaluator's contribution to naturalistic study is likely to be in both identification of relevant variables and construction of the best means for measuring these variables

Considerable skepticism has always existed with regard to the measurement of many educational variables Especially has this been true for teaching itself Not only were teachers often considered "born, not made," but

Need

the commonality among so-called good teachers was never clear Yet in recent years, teaching style itself has been the center of much research attention, and real breakthroughs have occurred in its objective measurement As evaluators and classroom researchers combine their talents the days of referring to the art, rather than science, of teaching may be nearing an end Already, a cluster of 15 discrete teaching behaviors have been identified which are at least partly trainable as distinct skills (Berliner, 1969, pp 47–48) As these behaviors are expanded and more is learned about how to instill them in trainees, teaching will have a taxonomy, and the 'science of instruction will replace the art of teaching

These several trends suggest a great future in the study of behavioral patterns in all kinds of lifelike settings Hopefully, this volume will provide additional guidelines toward its greater development and usefulness for both application and basic research purposes

NEED

Some reasons have already been given for the conduct of naturalistic studies Others will be stated explicitly in order for their full value to be appreciated

First is the need stressed so effectively by Barker (1968) for purely descriptive details about man's behavioral patterns in all walks of life Almost every other science is replete with catalogs and handbooks of facts about the phenomena it covers (for example the characteristics of thousands of plants and animals the locations and features of stars planets, and galaxies the properties of metals gases, and liquids) Behavioral sciences have barely begun to accumulate and classify such data For instance, little is known with exactitude about how executives of corporations of various sizes spend their time or how administrators of profit making enterprises function in relation to those heading service and other nonprofit institutions Naturalistic research can serve to increase substantially the overall empirical bases of behavioral science

Without sufficient descriptive information the wrong problems are selected for study, inappropriate hypotheses are tested and erroneous inferences are made In the area of accident prevention, for example, Klein (1968, pp 98 99) pointed out that, despite common beliefs to the contrary, it has not been clearly ascertained that teen-age drivers are any worse than adult drivers

Aside from some crude overall mileage estimates based on gasoline tax receipts and some sporadic and nongeneralizable survey data, we have no

information on who drives what kind of vehicle how many miles per year on what kinds of road and under what conditions of weather, traffic, day light, fatigue, intoxication drug impairment, etc And thus we have no way of relating the number of violations and accidents in any population subgroup to the quantity and quality of its exposure

The available data (from only 24 states) indicate that teen-age drivers hold 9 5 percent of the drivers' licenses and are responsible for 14 9 percent of the reported accidents If they drive 50 percent more mileage than adults or are on the road 50 percent more of the time—a likely possibility—they are no worse drivers There is no way of judging accurately without norma tive information about driving habits whether they are poorer, the same, or better drivers than adults (Klein, 1968, p 99)

Without descriptive data one cannot discern which hypotheses, verifiable perhaps in the laboratory, may be trivial in real life, where the same vari ables may not exist in any significant amount In field studies it is possible to revise hypotheses and procedures continuously as one gathers data and learns more about a given situation The field worker spends considerable time in sorting out relevant variables discovering how phenomena operate in detail and identifying significant hypotheses ready for precise experi mental testing This is an important step in the overall development of a science

Inadequacies of Other Research Types

Inconsistencies are frequently found between the results of laboratory experimentation and naturalistic investigation Phenomena often operate differently within the vastly more complex matrix of a real life setting than within the narrow confines of the laboratory, where many important forces may not be permitted to vary (Willems, 1969) Every scientific pro cedure has limits whereas the field study may be lacking in control the experiment may fall equally short on reality dimensions

Attitude surveys which currently provide the greatest amount of informa tion regarding how people feel about various real life phenomena and situa tions are likewise often poor behavior predictors Sechrest (1969) docu mented such inconsistencies between stated beliefs and actions in his chapter on nonreactive attitude assessment In one illustrative study two cars (a new luxury model and an old inexpensive one) were used to block traffic momentarily at the change of signal light from red to green (Doob and Gross 1967) Latency and frequency of honking were preselected as measures of differential aggression toward high- and low-status symbols Despite the fact that a sample (obtained by questionnaire) of subjects stated that in such a situation they would be more likely to honk at the high-status car,

the low-status car produced faster and more frequent honking in the actual test situation

The extent of agreement between stated and actual behavior depends on the visibility and social acceptability of the responses in question (Sechrest, 1969, p 149) This variability is the basis for conducting elections by secret ballot There is need, therefore, for attitude studies in which the data procured represent the actual decisions of people in true-choice situations

Just as there is need for field studies to generate nontrivial hypotheses and identify relevant variables for experimental testing replication of experimental research under field conditions is equally necessary Without replication of such research in other settings than those in which it was originally carried out, there is great danger in overgeneralizing the findings and especially the practical implications Even when the original experiment is conducted in highly realistic, simulated conditions, further replication is mandatory

One classic example might be cited of overgeneralizing from basic research to educational policy In several carefully designed studies, Lewin Lippit, and White (1939) studied the behavior of boys in small social clubs where the group leaders deliberately established authoritarian, democratic or laissez faire social climates They found that the quality of work seemed to be constructive and the behavior cooperative in the democratic atmosphere, whereas the same boys became more aggressive and hostile in the authoritarian climate Partly as a result of these and other findings, educators began preaching the merits of the democratically run school and classroom citing the above study as confirmatory research evidence For almost two decades teachers were taught the merits of pupil teacher planning pupil participation in the evaluation process and the wrongness of structuring assignments, lessons, and activities tightly because they smacked of authoritarianism Teacher-dominated classrooms could only lead to aggressive behavior, hostile feelings extrinsic motivation, and unoriginal work from the pupils As a result of this cult of democracy, thousands of teachers must have felt the psychic stabs of guilt and inadequacy whenever they found themselves, out of necessity, directing children's work or behavior closely, lecturing evaluating and taking other teacher-structuring actions Differences notwithstanding between boys social clubs with minimal societal recognition and the bisexual school classrooms established from extensive cultural expectations the democratically run school was best so reasearch seemed to say

Not until Flanders and his associates (1960 1965, 1970) developed a system for measuring classroom interaction itself did the supposed superiority of the democratic classroom run into conflicting evidence Utilizing this system to compare teachers on the basis of how much their students learned and how well they liked their teachers, Flanders found that it was not

of those who are available for basic research, practitioners themselves will have to tool up to accomplish the applied research tasks that must be under taken

Pressures for Sound Institutional Assessment

As more and more funds and societal energies go into such insti tutions as the school, the public health clinic, youth centers, and other orga nizations set up to minister to the needs of people in one way or another, the more society will demand systematic evaluation of how well these institu tions function

At the very time, furthermore, when practitioners are being asked to provide evidence of how good their institutions really are, the major tools that traditionally have provided such evidence are coming under increasing attack from numerous quarters In recent years, popular books for the lay men have pointed out the limitations of tests, for example Although per sonality tests have borne the brunt of these attacks, other types of tests, such as achievement and aptitude have been criticized as well Books have ap peared which even describe how to 'fake" tests and produce acceptable scores and how to improve one's IQ Criticisms have come from both political extremes Conservatives are typically concerned about the "Big Brother" implications of decisions about people now being made by governmental agencies primarily on the basis of test results Liberals tend to be concerned over whether or not tests used for screening job applicants are equally fair for people of differing races, religions or even sexes

Journalists, politicians and occasionally psychologists have all been sharp critics of the testing movement In many communities, boards of education have taken restrictive positions regarding the kind or extent of testing to be done in schools Quite often, personality tests are not utilized at all as part of regular policy, or if used, special consent from parents must be obtained

Congressional hearings in 1965 (in both the Senate and the House of Representatives) provide further testimony that testing is receiving thorough public scrutiny and may eventually come under additional societal control The seriousness of this eventuality to the psychological profession is attested to by the fact that the entire issue of the November 1965 issue of the *American Psychologist* was devoted to "Testing and Public Policy To highlight this special issue of the leading APA journal, its traditional blue cover was replaced by a green one

No doubt this concern expressed by the public is an unavoidable result of the fast evolution of the entire testing movement. The first intelligence test to be used in large-scale fashion was the Army Alpha during World War I In the half-century since then, tests have been developed to measure almost every human quality They have been put to work in screening job

applicants, diagnosing mental diseases, and predicting academic success, to mention but a few of the thousands of uses made of them. With such a short and rapidly expansive history, it is only to be expected that excesses would emerge in expectations and claims on the one hand and criticisms of shortcomings on the other.

Surveys and polls have also come under recent attack. Critics have pointed out possible lack in scientific rigor, widespread utilization in political and commercial propaganda, invasion of privacy, and increasing nuisance factors in answering questions and filling out related forms. As the public is polled on more and more issues and products, a saturation point in patience and respect is likely to be reached. When used extensively, furthermore, the public opinion poll may actually be a change agent itself, its reported results serving to alter the very conditions it is designed to measure.

With traditional instrumentation being subjected to such stringent analyses, other appraisal techniques will be needed if schools and other agencies are not to be deterred from their never ending quest toward more scientific, effective procedures. Supplementary observational information of sufficiently sound quality should do much, both to dispel the claims of too much reliance on tests and to reach areas of human functioning that tests either cannot or are not permitted to tap.

The proponents of testing fully recognize the fact that a test provides only one sample of behavior and that other samples are needed. Even though proved to have high validity and reliability, tests cannot be considered sufficient indicators of human functioning, which those most knowledgeable about tests are the first to recognize. It is the less sophisticated laymen who overstate what tests can do. Most institutional goals are too broad to be measured adequately by current tests.

The goals of education, for example, include such matters as 'worthy use of leisure time," 'responsible citizenship activity,' and "good character development," along with traditional academic aims. Even when these globally stated traits are broken down into more manageable, operational terms, in the eyes of many people if these characteristics are measured via a paper and pencil test the results are always somewhat suspect. A subject may be able on one day to score 100 percent on a test of good citizenship, but the next day he may be caught driving through stop signs, throwing empty beer cans along the road, walking across property marked with "no trespassing" signs, and not voting when the opportunity is afforded. The majority of traits employers seek when recruiting workers, those preferable to college admitting officers when selecting students, and even personality criteria adopted by eligible males and females when looking for possible marriage partners cannot be measured well enough by tests to make them effective very often.

Summary

It can be stated that fundamental understandings about human behavior will be applied much more extensively to ordinary human affairs than has generally occurred in the past only if such knowledge receives further investigation at the local institutional level This need for naturalistic studies, especially those of an observational character, is especially important to the more extensive application desirable for institutional practice Without such a formalized discipline, behavioral science itself will lack the full stature acquired by other sciences from field testing their fundamental premises

The vast complex of interacting forces underlying behavior makes the situational and human factors of every institution unique To the extent that aberrancy does exist—from home to home, school to school, neighborhood to neighborhood—a need for applied research is justified on this basis alone How else can the range of applicability of basic research findings be determined? Only when one sees what happens to behavior over the broad spectrum of settings often embracing countless uncontrolled variables, can one become sufficiently informed to utilize human development principles discriminately Only as basic research studies are replicated many times in more natural circumstances than in their original well-controlled laboratory settings will behavioral sciences achieve full maturity and authoritative status

NATURE OF OBSERVATION

The fundamental basis of any science of course, is observation A scientific discipline can be no more rigorous than the techniques it commands for observing the entities and processes that lie within its domain In naturalistic studies it is especially important to focus observations precisely and select measuring devices with care

Complexity of Behavioral Events

Even in naturalistic study an observation does not encompass all that is to be seen It should not be thought of merely as passive exposure to perception More is always happening than an observer can perceive (Kaplan 1964 p 133) Whether he recognizes his purposes or not, an observer actively seeks out much of what he sees What he observes is dependent on both the events taking place and his own capabilities and purposes "Much of the forethought that goes into scientific observation is

directed toward making accessible what otherwise could not be seen, or if seen, would not be noticed' (Kaplan, 1964, p 127) For data to have any meaning therefore, at least three factors that structure a given observation must be taken into account (1) the actual entity or process being observed, (2) the context in which the observation is made, and (3) the characteristics and purposes of the observer More will be said about these factors in subsequent chapters

Typically, the field situation, in contrast to the laboratory, is a highly complex one Because of this complexity, behavioral events that occupy only a few minutes of time may take many times that long to describe Barker and Wright (1951) took a whole book to describe a mere day in the life of a boy Such a multiplicity of variables is so often involved that police and journalists have great difficulty coordinating the different stories of eye witnesses about an accident, holdup, or even more commonplace event Out of the host of possibilities each witness selects his own items to notice and remember These perceptions, in turn are generally and unwittingly selected to confirm what he has expected to see in the first place or what he has hoped to see Because of this complexity and such selective perception tendencies, there is often little overlap in the descriptions of the witnesses

It is essential, therefore, that naturalistic researchers clearly determine what they are to observe out of this complexity, as well as a means to record it accurately and systematically Not only is systematic observation necessary in research, but it also can be highly useful in management of institutions

A hospital delivery room procedure might well serve to illustrate how observational data can be gathered routinely to improve the overall success of institutional operations and, in this case, increase the likelihood of a healthy delivery The complexity of events going on at the time of a baby's birth has in the past often caused the condition of the newborn child to be momentarily overlooked As a result, in 1952, Dr Virginia Apgar, an anesthesiologist, introduced a simple checklist into hospital routine so that the infant's condition would be automatically checked 60 seconds after birth, thereby concentrating the attention of delivery room personnel upon any immediate postbirth problems This routine, more a checklist of behaviors to note and record than a test, has been credited with saving many lives and has often prevented irreparable brain or body damage The factors evaluated and noted on the checklist are heart rate, respiration, muscle tone, reflexes, and skin color Translated into a simple 0 to 10 numerical score, this evaluation has been placed on the child's record and used to predict survival chances as well as to effect immediate medical attention if needed The Apgar routine, which is fast becoming accepted delivery room procedure throughout the world, serves also as a prime example of the utility of naturalistic observation (Medical World News, 1968)

Basic Types of Observational Data

Methods available for obtaining observational data have been previously well summarized by Weick (1968) and Wright (1960) Another taxonomy will be presented in Chapter 4 of this volume

No matter how obtained, however, data must ultimately be reduced to a form where they can be analyzed Either classifications or ratings must be made in order to accomplish this reduction Category sets or rating scales can be used at the time of the original observations to record data in pre coded form or observations can be recorded of ongoing events as they occur in noncoded nonevaluative fashion through the writing of objective, nar rative accounts writing detailed specimen records, or making electronic or photographic transcriptions This latter noncoded, narrative type of re cording can be processed, however, only through the use of a category or rating system

Although in widespread use because of their simplicity of construction, ratings of general traits without specification of the situations they should cover are usually poor research devices for both laboratory and field condi tions Their major usefulness would seem to be in generating hypotheses for further research and not in obtaining the solid kinds of data to be used as bases for altering institutional practice

On the-spot rating on the other hand, of a single or at least a limited num ber of qualities over a brief (say, 5 minutes) time period can provide highly reliable, useful data of the sort institutions really need The amount of anxiety exhibited by a child in an oral reading activity is a quality that can be rated readily and accurately by his teacher, using a checklist of opera tional cues to guide her in this evaluation How the grouping of children is accomplished (that is, by teacher, children, or someone else) for a given activity can be rated with a high degree of reliability and objectivity if this rating is done immediately after the event occurs

Ratings or classifications, then, become the basic data of naturalistic ob servation Because general ratings of people do not seem to provide the substantive data required by science—unless the raters are expert in their field and have agreed ahead of time on rather precise specifications of terms —ratings are recommended primarily for those situations in which the be havior to be judged can be seen or heard operationally and rated almost immediately afterward A child should not be rated on honesty at the end of a semester, for example Rather, a record should have been kept through out this period of acts that were judged to be honest or dishonest at the time they occurred in accordance with well-specified criteria

In the course of an ordinary day, each school child, as well as each hos

pital patient, behaves in dozens and hundreds of ways, depending on how the behavior stream is divided As pointed out earlier, his actions vary widely from setting to setting Only a fraction of such behavior can be noted consistently and accurately It is fallacious to believe that all his behavior can be noted and rated This is the major weakness of general ratings of human character and personality More will be said about rating and categorizing in Chapter 4

CHAPTER 2

Ethical Issues
in Naturalistic Study

Naturalistic research may often require unorthodox methodology and trespass into human affairs generally regarded as private domain In presenting various methodological paradigms for the effective conduct of such research, this book raises certain ethical issues that the laboratory sci entist seldom faces[1]

One can assume the posture, as did Webb et al (1966) in their delightful volume about gathering data unobtrusively, that a scientific treatise need only present the methodology and content it is presumed to cover and not the ethical questions they might raise Supposedly, science is ethically neu tral, and its products are devoted toward good or evil according to the choice of the rest of mankind.

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Unannounced participant observation and interviewing are fundamental procedures in naturalistic study They are likely to become equally suspect as they become more widely used, especially if investigators lack discretion in revealing the sources of their findings

There is little need for ethical concern in the type of participant observation in which the researcher openly identifies himself and his purposes when he joins a group or moves into a neighborhood to live while he studies its culture When this forthright approach is adopted, the observer is viewed as an outsider by the community, and spontaneous responses may be lacking or may be distorted in his presence

Another approach to participant observation involves surreptitious investigation in which the researcher or his aides are present but are not identified as observers Deception is clearly practiced when relationships with subjects are established in order to elicit information In this form of participant observation, ethical considerations become a paramount concern of the socially responsible researcher, and he should be reluctant to proceed without adequate reasons for such invasion of privacy

Inherent in the rationale behind all types of undeclared observation is the researchers need to see behavior when subjects are not exercising the types of self-conscious control that result in concealment of their real feelings or intent, or which result in other distortions of the truth When the presence of an observer is known, subjects may always feel some need to control their spontaneous responses and act differently than in the natural situation The ethical safeguards to be discussed later apply specifically to all forms of research that may take place in natural settings

New Equipment and Technology

Physical devices and techniques for studying human behavior scientifically are not new Fingerprint and chemical trace analysis, photography, tape and stenographic recording, and even telephone and telegraph monitoring have been well-established routines in criminal investigations throughout most of the twentieth century One way glass and interaction recorders (for example, the Chapple Interaction Chronograph) have served the behavioral researcher equally well for a number of years

Remarkable advances have occurred during recent years, however, in optical acoustic, and other sensory devices that make it rather easy for any one to scrutinize closely the behavior of almost anyone else Recent public awareness of the power and availability of such devices has given way to a mounting concern over potential threats to human freedom

The list of such devices and techniques is already voluminous, a fact that

becomes obvious when one scans the latest catalogs of electronic companies or browses in camera and novelty stores Particularly impressive equipment, which makes the surreptitious procurement of massive amounts of data possible, are (1) the miniature battery powered microphone, (2) the extension telephone, (3) the portable (and concealable) tape recorder, and (4) the small high resolution camera[2] Even more powerful gadgets will probably materialize in the years ahead Speculation suggests, for example, that brain wave monitoring may even become possible by utilizing a helmet whose electrodes pick up electric charges transmitted by hair cells (Westin, 1967, pp 155-156) Presently available drugs such as LSD, tend to block out the normal reticence of persons so that they reveal more about themselves than they generally do

Even more ominous perhaps than data procuring measures are the data surveillance and retrieval possibilities inherent in the modern computer The evidence of human activity that people leave behind them even in a days time is most extensive Store purchases on charge accounts, travel expense records long-distance telephone calls, theater reservations, motel registrations, check payments, and credit card usage all leave an identifiable trail

In addition, less frequently but more comprehensively, people fill out detailed forms reporting information about their activities income tax reports, social security forms, financial status statements, job and welfare applications census questionnaires, medical histories, and similar personal records. These records all add up to a mass of data about human beings that is almost instantly retrievable by other human beings, usually in ways and at times unknown by the persons most involved

How much greater the access to such information when it is computerized rather than retained only in manual records[3] is reported by Rosenberg (1969, pp 73–80) Questionnaire returns from over 130 companies indicated that feedback to the employee himself, his supervisor, and government investigators (but not to other business organizations) tended to be greater on such matters as past and current income in companies that maintained computerized employee records than in those that had only manual records

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[2] Extensive reviews of physical surveillance equipment are presented in Westin (1967) and Dash, Schwartz, Knowlton (1959) The latter book includes both detailed explanations of the workings of modern eavesdropping tools (for example, highly directive microphones and wire-tipping equipment) and reviews of legislation and court decisions on their usage A recent survey of instruments specifically related to behavior modification studies is reported by Schwitzgebel (1968)

[3] Manual records include files, keysort and keypunch systems, and microfilms

At the time of Rosenberg's study, however, only a small percentage of companies with computerized data attempted to code such personal data as history of alcoholism or drug addiction, test scores used in employment and for promotion, skills inventory, house ownership or rental, and automobile ownership by type and year, all of which were available in manual records.

Data Centers

The existence of large centers containing massive amounts of personal information is no longer merely a threat but a hard reality. At least 20 departments or agencies of the federal system as well as numerous state and local government divisions currently collect, maintain, and often publish such data (Rosenberg 1969). Some of the federal agencies that have been supplied personal data, usually with the understanding that it be treated confidentially, are the Internal Revenue Service, the Bureau of Census, the Bureau of Labor Statistics and the Office of Education. School records contain test results, grades, attendance, and behavior notations. Job histories include performance evaluations and recommendations, positions, tenure, wages and salaries and references. State motor vehicle divisions maintain details about driving performance, especially traffic violations and car registrations. Military and draft status is reported in numerous places in addition to draft boards. The Department of Defense has 14 million life histories in its security files, the Civil Service, 8 million and the FBI, a countless number. Included in investigative checks for the Federal Housing Administration are data on marital stability—on the premise that mortgage foreclosures are more likely if divorce is pending (Westin, 1967, p 159). Court house records include marriage licenses, birth and death certificates, reports of property transactions, divorce and custodial information, and property tax assessments and payments among many other items. An excellent list of data archives currently available to researchers was published by Schoenfeldt (1970).

Private agencies likewise maintain files on millions of people. Telephone companies obviously, have records of where long distance calls are made, which occasionally have been used as documentary evidence in court proceedings. A recent example is provided by the calls made by Senator Ted Kennedy immediately after his accident on Chappaquiddick Island, which became part of the official court record. Credit agencies in almost every town maintain credit ratings on customers by the thousands and exchange information among business people relating to their financial status. The largest American private investigative agency, the Retail Credit Company, has 7 thousand investigators and keeps dossiers on 42 million people, one-fifth of the entire population (Westin 1967, p 159).

COMPETING VALUES

Privacy and self-determination rights for individuals, groups, and institutions are not the only cherished values demanding consideration in naturalistic studies Equally important perhaps are the rights of scientists to discover and of the public to benefit from their discoveries. As with most research, the fruits of naturalistic investigation can be utilized for much common good

Each technological development is undertaken not to invade privacy but to resolve human problems and improve the general welfare The health and safety of people, for example, can be improved only when new discoveries are made and new knowledge is applied Fair and equal justice also depends in part on those in authority having access to information with regard to what people are doing and how they are being treated

The use of human records, furthermore can serve to enhance not only organizational efficiency but also personal satisfaction Theoretically, employees are better suited for their jobs and students better matched to their school assignments when sound information about their capabilities is utilized in establishing expectations for them Customers can receive the advantages inherent in a credit system only if those who are unlikely to meet the obligations of that system are eliminated otherwise, the prices for all must be raised to cover the extra cost of those who do not pay Similarly, car insurance rates for good drivers must be higher than they need be if driving records are not considered in determining rates and coverage The honest can be protected from the dishonest, the innocent from the criminal, the well trained and fully credentialed from the fraudulent, only if records are kept and personal information used in operating the institutions of modern society and in establishing rights and privileges according to one's behavior

Thus, it is argued that overprotection of the individual from privacy invasion can jeopardize standard generally and the fair treatment of individuals particularly, by preventing the collection and use of necessary data Preservation of societal customs and traditions, without which there can be anarchy, depends in great part on a reasonable disclosure of information about people and the maintenance of appropriate surveillance and record utilization (Bennett, 1967, p 7)

Naturalistic research, then, should be considered a normal extension of the principle of unlimited scientific inquiry and within the right of scientists in advancing knowledge Furthermore as practitioners become more scientific in the conduct of their own enterprises, they not only have an increasing right but also a greater obligation to utilize whatever research methodology is more likely to bring them knowledge In the actual conduct

of investigations of course the right of the scientist to know must be carefully weighed against other rights and values

As research participants individuals certainly should be protected from needless harm physical or psychological The primary ethical consideration [in conducting research] is that harm shall not come to subjects as a result of one's activities" (Riesman and Watson 1967, pp 307–308) The real danger in invading the individual's privacy is the potential destruction of dignity and self respect that may result the loss of security he feels as he loses control over what is revealed to the outside world It might well be argued that unless such psychological damage or other adverse consequences result from a person's privacy being invaded no moral wrong has transpired

To the extent that research is only momentarily discomforting like taking a school test other factors should determine whether or not it should be undertaken Hoch (1967) argued for consideration of at least two other variables beside the price extracted from the human subject (1) the constraints placed on the experimenter that is what alternative methods exist and (2) the importance of the research Hopefully most, though probably not all research can proceed in fairness both to the subjects involved and the scientist with a job to do so that society will benefit from new knowledge on important problems

The resolution of the ethical issues involved in social research is no easy assignment Conflicting values are many, of which individual privacy is only one although admittedly a highly important one

ETHICAL SAFEGUARDS

The resolution of issues raised in this chapter and elsewhere about the conduct of behavioral research especially of the naturalistic variety is difficult to achieve in the abstract Only as each situation is examined closely can needless or unethical invasion of privacy be detected clearly and as has been argued other issues also involved may make some invasion of privacy warranted

In the examination of each research plan, certain guiding principles might well be kept in mind These principles would seem to have rather wide spread endorsement among behavioral scientists and others who have reflected upon the ethical issues raised by recent technological developments

Protection of Status
of the Research Community

Though less offensive than invasion of privacy, deterioration of public trust and respect for the activities and accomplishments of behavioral scientists may prove more detrimental to society in the long run Conrad

(1967, p 28) stated this concern as   Social science must not become identi
fied in the public mind with snooping and prying   Many of the monu
mental problems mankind faces need solutions in the years immediately
ahead   Just as physical science has achieved great technological break
throughs behavioral science represents one of mankinds most promising
hopes for solving some of its grave human problems   To the extent that it
is discredited in the public domain   restrictions will certainly limit its ac
complishments

Therefore, it is of utmost importance that naturalistic researchers among
others exemplify by their own conduct the practices that bring credence to
their work and trust in their overall actions   Even though their methods at
times may seem momentarily questionable they should take whatever meas
ures possible to minimize loss of such trust without giving up their zealous
pursuit of knowledge

As Brim (1967) pointed out some of the preservation-of-privacy concern
may indeed spring not so much from true alarm about methods that invade
privacy as about the inroads behavioral science is making on ideas   The
investigator should be alert to recognize these perceived threats and take
action to attenuate anxieties without lessening his search for truth

In contrast to the direct use of tests interviews and questionnaires or the
manipulation of environmental conditions—characteristics of much be
havioral research—where investigative activity is likely to expose human
subjects to physical or emotional stress they might not otherwise encounter
the primary damaging features of naturalistic study center on the invasion
of privacy issue   Here the main question seems to be about what happens
to the data obtained and what is said or done about research findings since
nothing extra is done directly to the subjects in the course of conducting the
research

Minimizing publicity about precise methodological procedures except
within the professional community is one concrete procedural suggestion
Though focusing specifically on assessment devices Principle 13 of the
Ethical Standards of Psychologists (American Psychological Association
1963) applies equally well to research methodologies (see p 35)   Excessive
publicity about naturalistic research activities could possibly stimulate wide
spread paranoid feelings of being watched or listened to without one s know
ing it certainly not a healthy psychological condition nor a characteristic of
an open society

For this reason naturalistic researchers must assume special obligations for
the maintenance of data security and must not utilize findings to the detri
ment of individuals   Data need to be depersonalized so that individuals
remain anonymous   Findings need to be applied in a systems analysis task
centered manner rather than in an effort to gain power or exert influence
over particular people

More will be said about these precautions under subsequent guidelines
It is enough to say here that in the interests of maintaining public trust,
naturalistic researchers ought to focus on problems of generally recognized
concern to adopt procedures that lessen the potential charge of "snooping"
and to be especially sensitive to social codes and moral expectancies Law
enforcement authorities are permitted greater latitude in investigating peo-
ple's behavior than is the general public, and the scientific community
should be no less free to obtain information if it acts in a deserving manner
With both groups however society ultimately establishes appropriate limits
Public confidence in research endeavor is a priceless attribute that must be
cultivated and preserved

The selected excerpts below, from the *Casebook on Ethical Standards of
Psychologists* (American Psychological Association [APA], 1967), emphasize
the relationship of one branch of behavioral science to society as a whole

> *Principle 1 Responsibility* The psychologist, committed to increasing man's
> understanding of man places high value on objectivity and integrity, and
> maintains the highest standards in the services he offers
>
> (a) As a scientist, the psychologist believes that society will be best served
> when he investigates where his judgment indicates investigation is
> needed he plans his research in such a way as to minimize the possi
> bility that his findings will be misleading and he publishes full re
> ports of his work, never discarding without explanation data which
> may modify the interpretation of results
>
> (e) As a practitioner, the psychologist knows that he bears a heavy social
> responsibility because his work may touch intimately the lives of
> others
>
> *Principle 2 Competence* The maintenance of high standards of professional
> competence is a responsibility shared by all psychologists, in the interest of
> the public and of the profession as a whole
>
> (a) Psychologists discourage the practice of psychology by unqualified
> persons and assist the public in identifying psychologists competent
> to give dependable professional service
>
> *Principle 3 Moral and Legal Standards* The psychologist in the practice
> of his profession shows sensible regard for the social codes and moral
> expectations of the community in which he works recognizing that viola
> tions of accepted moral and legal standards on his part may involve his
> clients students or colleagues in damaging personal conflicts and impugn
> his own name and the reputation of his profession

Ethical Safeguards

Principle 5 Public Statements Modesty, scientific caution, and due regard for the limits of present knowledge characterize all statements of psychologists who supply information to the public, either directly or indirectly

(a) Psychologists who interpret the science of psychology or the services of psychologists to clients or to the general public have an obligation to report fairly and accurately Exaggeration, sensationalism, superficiality, and other kinds of misrepresentation are avoided

(b) When information about psychological procedures and techniques is given, care is taken to indicate that they should be used only by persons adequately trained in their use

(c) A psychologist who engages in radio or television activities does not participate in commercial announcements recommending purchase or use of a product

Principle 13 Test Security Psychological tests and other assessment devices the value of which depends in part on the naiveté of the subject, are not reproduced or described in popular publication in ways that might invalidate the techniques Access to such devices is limited to persons with professional interests who will safeguard their use

Principle 16 Research Precautions The psychologist assumes obligations for the welfare of his research subjects, both animal and human

(a) Only when a problem is of scientific significance and it is not practicable to investigate it in any other way is the psychologist justified in exposing research subjects whether children or adults to physical or emotional stress as part of an investigation

(b) When a reasonable possibility of injurious aftereffects exists research is conducted only when the subjects or their responsible agents are fully informed of this possibility and agree to participate nevertheless

(c) The psychologist seriously considers the possibility of harmful aftereffects and avoids them, or removes them as soon as permitted by the design of the experiment

(d) A psychologist using animals in research adheres to the provisions of the Rules Regarding Animals, drawn up by the Committee on Precautions and Standards in Animal Experimentation and adopted by the American Psychological Association

(e) Investigations of human subjects using experimental drugs or similar subple hallucinogenic, psychotomimetic, psychedelic, or similar substances) should be conducted only in such settings as clinics, hospitals, or research facilities maintaining appropriate safeguards for the subjects

At the risk of overquoting a single source, perhaps the prefatory statement best expresses the overall spirit of the APA code

The psychologist believes in the dignity and worth of the individual human being He is committed to increasing man's understanding of himself and others While pursuing this endeavor, he protects the welfare of any person who may seek his service or of any subject, human or animal, that may be the object of his study He does not use his professional position or relationships, nor does he knowingly permit his own services to be used by others, for purposes inconsistent with these values While demanding for himself freedom of inquiry and communication, he accepts the responsibility this freedom confers for competence where he claims it, for objectivity in the report of his findings, and for consideration of the best interests of his colleagues and of society

Informed Consent and Personal Welfare

The very nature of naturalistic research often precludes obtaining informed consent from subjects before participation Critical as this principle seems from statements presented earlier in this chapter, a primary premise underlying naturalistic research is that it be focused on regular, ongoing activity Over and over again in this book it is stressed that a great need exists for this kind of research

The discussion of issues and competing values has brought out the fact that other principles must take precedence occasionally if sound naturalistic research is to be accomplished Informed consent from the subjects themselves would defeat the very purpose of such research

Recognition that informed consent may not always be possible, especially from the subjects of a naturalistic study, can be found elsewhere Though urging its procurement, whenever possible, and the use of privacy protection measures, the APA Panel on Privacy and Behavioral Research (*Science*, 1967) states

> Naturalistic observations of group behavior must sometimes be made unbeknownst to the subjects   When the subject cannot be completely informed, the consent must be based on trust in the scientist and in the institution sponsoring him

In their excellent analysis of the various issues surrounding privacy and research, Ruebhausen and Brim (1965, p 1198) pointed out that a rigid, literal insistence on formal consent is highly unrealistic Such insistence would limit research generalizations, in many instances, by ensuring biased samples Distortion of true responses would most certainly occur in studies of subtle attitudes or of asocial behavioral patterns The difficulty of conveying a full understanding of the nature of many research investigations, especially to a scientifically naive audience, precludes achieving *fully informed* consent

In the absence of consent, however, the researcher must assume more

fundamental obligations, particularly for the welfare of his research sub-
jects That this is a more fundamental obligation can be well documented
None of the 19 major principles of the APA code of ethics for psychologists,
for example, stresses the specific notion of informed consent, though two
(principles 7 and 16) mention obligations for the welfare of clients and
subjects The nearest mention of an informed consent requirement is in a
subsection of Principle 7, which stipulates that in asking or allowing a
client to reveal personal information through interviewing, testing or evalua
tion, a psychologist has the responsibility of informing him of his purposes
and of how the information will be used Another subsection of the same
principle again emphasizes the use of test and research data in a professional
manner

If the anonymity of subjects were maintained and research data handled
only in a professional manner, the overriding principle (that is, respecting
the dignity and protecting the welfare of the person or group) would seem
to be followed by naturalistic investigators, even without obtaining in
formed consent directly from research participants

If it is impractical or jeopardizes the attainment of investigative objectives
to obtain consent from the subjects themselves, an appropriate option would
seem to be to gain permission from what Brim (1967, p 31) referred to as
"the larger community of responsible adults who are knowledgeable This
action was taken in one large career-development study (Tillery, 1967), in
which extensive data were obtained from 90,000 youngsters in 300 schools
regarding their family backgrounds, attitudes held toward significant per
sons in their lives, and aspects of their educational experiences The re-
search design called for carefully drawn samples of ninth and twelfth grade
students Having to select students on the basis of informed consent would
have ruined the generalizability of the entire project Great care was taken,
however, to elicit the cooperation and informed consent of educational and
community leaders, to explain the research to communities as a whole, to
answer as many expressed concerns from people as possible, and even to
involve practitioners in refinement of research plans as they unfolded

Similarly, Hollingshead (1949) in Elmtown, Warner and Lunt (1941) in
Yankee City, and anthropologists generally have sought permission to con
duct their community studies from the general leadership in those communi
ties While it may not be necessary or wise to cite every procedural detail,
general explanations of plans can be made and clear understandings reached
regarding how data will be handled and participants' sensitivities respected
Some form of permission is desirable from someone other than the investi
gator who is in position to evaluate the importance of the study in relation
to whatever risks might be involved Seldom is naturalistic research done at
the sole discretion of the researcher Additional obligations assumed by
investigators are discussed in the remaining sections of this chapter

*Anonymity of Subjects
and Confidentiality of Information*

In all research on human subjects, steps can (and indeed must) be taken to ensure confidential treatment of data obtained. Effective ways of preserving the anonymity of subjects include coding information by numbers so that subjects and institutions need never be identified by name as data are processed, maintenance of files under tight security, disguising sources of information carefully avoiding the release in published reports of any personally identifying facts, and even destroying original raw data, once it has been properly coded. The latter procedure of destroying data may occasionally be necessary, unless statutes are adopted to preserve the privileged status of research data from possible subpoena.

Although anonymity may not be a complete substitute for consent, it certainly minimizes the potentially harmful effects of privacy invasion. Most people probably do not mind being observed in many situations if they can expect not to be identified personally or not to have observations used detrimentally against them in some other way. Deep-seated personal feelings are often revealed more openly to professionals and even to strangers, whom subjects do not expect to see again, than to friends and acquaintances. Both with professionals and strangers, a subject does not expect the information to be used against him, admittedly for different reasons. He counts on the professional not to betray a confidence and the stranger not to be in position to do so. In each instance, however, the willingness of persons to communicate about themselves is apparent as long as no personal harm is likely to result. As Westin (1967) succinctly argued, no breach of privacy is evident when persons voluntarily and freely express themselves to others.

Ethical issues arise, however, when such expressions are made part of a permanent record and when the persons involved would not ordinarily expect it. Complete anonymity of such persons, confidential treatment of the data, and use of information obtained only for purposes of the investigation would seem sufficient protection for subjects and well within the prerogatives presently afforded the scientific community.

Perhaps the most menacing of all recent developments are the computerized data banks, because of their limitless possibilities for storing and instantly releasing massive amounts of personal information to anyone having direct access to them. Potentially, data procured in the interests of scientific research could be utilized for nonscientific purposes that are harmful to the individual. Confidentiality could be destroyed unless special precautions are taken.

With one exception, it is quite feasible, however, for research data banks

to be designed so that records cannot be linked by name to specific individuals or institutions. Combining data from several archives (the one exception) would require identifying information to be removed immediately and automatically from the file as part of the final check of the merger. Thus scientists would be able to conduct studies relating census data, for example to TALENT ability data without being able to identify individuals (Schoenfeldt, 1970, p 614). The technical problems of preserving the anonymity of institutions as data are released to outside researchers are greater than those for individuals (Bradburn 1968).

Safeguards have already been established in many instances and are completely functional. From 1965 to 1968 over 80 projects were conducted by outside researchers on TALENT data without violating the confidentiality principle. Data were supplied according to the specifications of researchers without identifying persons or institutions (Schoenfeldt 1970)

Many proposals have been made recently for ensuring confidentiality of institutional records of various kinds and utilization of data in ways that protect individual rights. As an example McCarth (1966) outlined a "bill of rights, which includes public rules concerning access to files and the necessity of reporting all entries to them. Columbia University and probably other institutions no longer permits federal investigators to examine academic records without permission from the students themselves (Westin 1967, p 381). The use of data especially privileged information obtained under one set of circumstances for entirely different purposes imposes the obligation to obtain further consent from someone who bears the responsibility for security of information if not from the original sources of data themselves. Increasingly the right of individuals to examine their own files and make corrections or additions if they wish is being practiced. The storage of personal information poses heavy threats to the welfare of human beings unless effective restrictions are placed on its utilization.

Deception and Manipulation

Although employed more extensively in experimental research some degree of deception and even manipulation is occasionally necessary for the successful conduct of particular naturalistic studies. As has already been pointed out investigators often cannot provide full disclosure of their purposes or investigative methodology without destroying the opportunity to perceive the very phenomena they seek to study. Participant observers for example must be somewhat deceptive about their observer roles as they seek the participant status necessary to play them successfully. Occasionally researchers may subtly insert particular questions into normal conversations or otherwise structure ongoing situations in order to observe particular re-

sponses without subjects realizing what they are doing Merely close observation of someone with or without the use of gadgetry, and recording his behavior inconspicuously, when such observation or recording is not expected can certainly be viewed as an invasion of privacy and perhaps as deceitful also

That such research is necessary, nevertheless as well as consistent with other ethical considerations, has been argued elsewhere in this chapter and book Although Seeman (1969) questions any use of deception for purposes of obtaining knowledge at the expense of some essential humanness in the relation of one person to another, Cronbach (1960, p 461), another respected authority, finds no ethical violation in the use of subtle techniques or even misleading instructions if the data so obtained are to be used solely for research purposes and the identity of subjects is thoroughly concealed in reports

Again while the ethical issues involved are debatable, it would seem that sufficient safeguards would be proper maintenance of data, careful reporting of information, and ensuring no personal harm (psychological or otherwise) to subjects from the conduct of the research Generally unnecessary in naturalistic studies because of subjects lack of awareness of their roles as participants deconditioning of subjects after experimental manipulation (for example stipulation of fictional norms) is certainly an extra obligation should awareness occur (see APA Principle 16, p 35) The employment of a reasonable degree of deception necessary for the purposes of the research would seem ethically sound if sufficient precautions are taken to protect the welfare of subjects

Essentiality

A prime consideration before employing deception or probing privacy should be determining how essential the procedure really is to the study and even, before that, deciding how important is the study itself Since some degree of risk of alienating the public always exists with the use of controversial measures in spite of precautions taken, their use should be restricted to those situations in which they are most needed Nothing can destroy public confidence in behavioral science faster than employment of controversial methods on trivial problems, especially if more acceptable and equally effective ones are available

Despite the mass of studies undertaken in recent years public wrath has been stirred to near peak levels in only a few isolated instances but these few cases have taken their toll of public confidence There are indications that increased limitations are being placed on the activities of behavioral scientists

Probably the most serious instance of 'nonacceptable' eavesdropping was the University of Chicago "jury bugging" experiment in 1955 Despite the best of professional intentions and prior clearance from the court and oppos ing counsel, communities all over the nation were shocked when this serious investigation of the deliberations of a jury became public knowledge The ultimate reaction showed up in the passage of federal and numerous state statutes specifically banning all attempts to record or observe surreptitiously the deliberations of juries (Ruebhausen and Brim, 1965, p 1193)

Partly in response to such public clamor and partly through recognition of the necessity for within profession vigilance against unethical practices behavioral scientists have established more formal review and surveillance patterns than seemed necessary a decade ago As specific research tools and procedures are examined, the effectiveness of potentially abusive items and practices is usually scrutinized closely in an effort to replace less essential with not only less abusive but also more productive substitutes

CONCLUDING STATEMENT ON ETHICS

Identity crisis will be a key issue during the next 50 years During an era of phenomenal change individual self identity will need frequent adaptation or affirmation As traditional institutions such as the family, the church, and the school evolve and their patterns of authority change, the ethnic, racial, and religious minorities will struggle for more influential group identities The way in which Americans will view their relationships with other countries and the cause of world peace will depend upon an evolving national identity

In addition to these identity crises, there is the continuing international revolution in people's expectations This revolution in expectations has freed them from the assumption that they must live within the narrower limits that defined their parents' economic, educational, and political opportunities The mood of the entire world is to aspire to what can be, instead of what already exists

To prepare ourselves for dealing with identity crises and the revolution of expectations, we must increase our abilities to think purposely, act rationally, and work effectively within our environments To succeed will require that we understand ourselves, others, the influence of the total environment (psychological as well as physical), and how all these interact Such under standing must be based upon the continued progress—even accelerated de velopment—of the behavioral sciences

Research in natural settings will play a critical role in the race to discover the influential variables controlling behavior—as many as possible in a minimum of time

To facilitate the study of human behavior in natural settings, free from needless fears on the part of the citizenry and recurring institutional, political, and demagogical attacks, will necessitate great responsibility and farsightedness in the behavioral research community. While it is expected that each researcher will develop his personal understanding of professional ethics, the following three points should have priority in every approach

1 Subjects of research in natural settings must be thoroughly protected from both psychological and physical injury. The researcher who is not certain of his competency to provide such protection should not proceed with his investigation

2. When possible, without impairing the validity and thus the usefulness of the data to be collected, the researcher should obtain the informed consent of his subjects prior to the investigation

It is well recognized (see Webb et al , 1966) that obtaining prior informed consent often distorts the natural situation by generating pressures in subjects to conceal feelings or distort their natural responses. Therefore, to get at the truth, unknown observation will often be the method chosen. At such times, the researcher should select several responsible persons whose objectivity and competence equip them to evaluate (a) the potential damage that could occur as a result of invasion of privacy and deception, (b) the value to the research community and society in general, if the data were to be obtained (c) the essentiality of the particular route planned to secure the data, when compared with alternative routes that might comprise less deception or invasion of privacy. The concurrence of responsible people in the decision to go ahead with a particular research strategy would provide, at least, a minimal safeguard against the use of blatantly unethical procedures in unknown observation

3 Scrupulous preservation of the anonymity of subjects with respect to the data collected is an essential requirement for research conducted in natural settings, unless clearcut ground rules have been established ahead of time for exceptions to this general principle

CHAPTER 3

The Place of Theory
and Purpose

The complexity of behavior in natural settings may necessitate considerable exploratory investigation of the domains of observational data that are available for study Only by engaging in such exploratory activity can key behavioral dimensions be identified and hypotheses established for systematic testing In spite of the emphasis in this chapter on the development of clearly formulated guidelines and the selection of particular behavioral variables, often stemming from specific theoretical models a certain amount of preliminary, atheoretical data gathering is often essential before the inherent possibilities for research in particular settings can be determined

Much of the valuable work of Barker Wright and their associates mentioned in Chapter 1 is of this type Rather large sets of possible behaviors are studied without heavy reliance on theoretical models for their identification Data are analyzed primarily in inductive fashion as one looks for recurring patterns and examines relationships among both behavioral and con

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textual variables In similar manner, other naturalistic researchers and institutional analysts may need to conduct considerable exploratory activity before deciding which particular areas of investigation to study in more systematic fashion which theoretical models to use, and which specific behavioral dimensions to concentrate on Without such exploration, they may overlook many important potential data and focus on relatively trivial areas, or they may not learn until they are well into their intended studies that the information they seek is not abundantly available in the settings they have chosen

Naturalistic research can be thought of as embracing both types of investigative activity, one designed to discern the key variables operative in particular settings and the other to test various preconceived hypotheses about specific variables Processes involved are more inductive in the first type and deductive in the second

While numerous illustrations of both types of research will be found throughout this volume, the present chapter is devoted primarily to the second type that is to the time when research purposes need to be clarified rather precisely and the specific behavior to be observed must be chosen with care Discussion of the processes involved in both types of research will be presented in Chapter 4, and the Case of Bob in Chapter 6 illustrates especially the inductive processes typically used in the analysis of exploratory research data

THE NEED FOR PURPOSE
CLARIFICATION

The complexity of behavior in naturalistic settings makes it virtually impossible to study all significant factors at one time Not dozens but literally hundreds of worthwhile behavioral investigations are possible in a typical human institution The investigator's task becomes then, not one of studying the complex of activity in a given institution but rather one of isolating and then studying the most important components of that complex

Even if one were to go to the trouble and expense of installing sound movie cameras and various electronic gear in order to capture and freeze institutional activity for later analysis this latter task could not be accomplished until specific variables worthy and capable of study had been identified

Choice of specific behavioral dimensions to be noted, of course, depends on the purposes of the investigator and the questions he feels are most important to answer Decisions about procedure and instrumentation are secondary to delineation of purpose Only after the objective has been defined can technique be soundly resolved

The Need for Purpose Clarification

Too many variables and too much information are often included in a single study because the basic problem has not been carefully enough defined. Even when the purposes are well established, one is tempted to gather more data than necessary, simply because they are available and seem important in general. Naturalistic researchers often note that significant behavior has been seen but has not been recorded because it did not fit their particular research purposes at the moment. Such important unrecorded observations can serve well as hypothesis generating material for subsequent studies, but if an adopted plan is modified in the course of data gathering to include extraneous information, the basic study is often jeopardized by overloading resources and procedures. The purposes must be clearly established ahead of time and kept in mind throughout the study so that observer resources will be sufficient to gather the pertinent data. Defining purposes vaguely or modifying them during the course of the study makes it virtually impossible to obtain and analyze systematically all relevant data. Lack of guidelines or mid project modification of those defined presents an investigator with the difficult task of retrieving data in retrospect.

Purposes may be quite limited in many instances, yet highly valuable. Banks or department stores may need to find out only how well their customers pay their bills, in order to estimate credit risks. In general, it would be unnecessary and inappropriate for them to gather information about their customers' educational, religious, political, or marital backgrounds. Keeping records of spending habits and debt repayments of different types of customers, however, permits both better decisions regarding credit extension and more flexible institutional procedures than is possible without such analysis.

Similarly, a library might well improve its services and its resources merely by taking a "use" inventory of its books, determined by the dates stamped inside the book cover and by coding the books according to content area and reading level. Another equally simple library study might well consist of a survey by sex and age level of the people who use the library. Such limited information about the population that a given institution serves is often quite valuable as a basis for modifying institutional procedure and providing the resources most compatible with the needs of its clients.

With necessary limitation of purpose, much seemingly important activity may have to be ignored for the moment as other activity is isolated from the overall operation for closer inspection. The investigator adopts new objectives as one problem is resolved and another takes its place. With each shift in purpose, new problems have to be defined in operational terms and new kinds of data gathered. From such a sequence of investigations and the resultant synthesis of findings, institutional analysis can take on a high level of quality.

High-quality institutional analysis, therefore, generally requires several

separate investigations, each one focusing on different factors within the total complex In most institutions a great variety of behaviors are occurring simultaneously and often spontaneously They can be studied thoroughly by isolating them one or more at a time and studying them one group after another as time, resources, and interest permit

Isolating factors to be studied is not an easy task Many discrepancies exist between what the casual observer is prone to believe happens in a given complex social event, such as a class or group meeting, and what really happens Observation is based on attention and attention is *ipso facto* selective Much research in the field of social psychology indicates that the observer perceives and recalls to a considerable extent what he expects and wants to see and remember (Turner, 1965, p 191) To overcome this selective perception tendency, he needs to define ahead of time what he will and will not observe and what procedure will effect it in an unbiased way When observational data have not been useful, as Heyns and Lippitt (1954) pointed out, the fault has usually been with the design of the study and the lack of clear-cut delineation of the observation area Once the area is defined, the observer can select or devise a measuring instrument and procedure appropriate to the problem, which will permit data to be gathered in an organized, directed, and systematic fashion An example of this delineation and selection process will be found later in this chapter (see pp 51–54)

THEORY AND RATIONALE

Of great help in the task of variable isolation is the selection of an appropriate model or theoretical framework to fit the problem The importance of theory to research procedure was well stated by Peak (1953, p 247)

> the theoretical model which the investigator brings to the task will play a crucial role, for it will be a major source of the ideas which occur to him and of the choices he makes If, for example, he sets out to devise a measure of hostility with a knowledge of the psychoanalytic theory of defense mechanisms the questions asked and the behavior observed will be different from that which would seem relevant if manifest expressions of hostility were regarded as the only appropriate data

The importance of theory in the development of behavioral science can not be overestimated Freud left his mark on this movement with maximal theorizing and minimal evidence Support of his theories with solid research findings has often remained for others of lesser renown Naturalistic research of the low-manipulation, low response-imposition variety (see Chap-

ter 1, pp 8–9) can contribute to the development of theory by providing descriptive empirical data, which in turn lead to inductive generalizations about human functioning in everyday situations, in much the same way as did the observations of Freud The construction of theories based on such generalizations represents the essence of scientific endeavor Prediction and control, of course, are necessary adjuncts to this central aim of science, which is understanding or theoretical explanation (Gage, 1963, p 99)

Theoretical formulation is accomplished by interrelating a set of variables on the basis of the rules of logic and/or of seeking variables that have functional relationships with each other Once formulated, they serve to guide the researcher in sharpening his research objectives selecting the variables he intends to study, and establishing hypotheses that he can test If his predictions prove correct in the conduct of the research itself, further support is provided for his theories, whereas if his hypotheses are not supported, his theoretical formulations are quite often in need of further refinement It was argued in Chapter 1 that much research is needed in natural settings of the low manipulation, high response-imposition type to test out the adequacy of many behavioral science theories within the complexity of ordinary life situations

Once the problem to be investigated has been well identified a search of the literature dealing with this problem area is usually helpful The researcher gains an overall understanding of various theoretical positions advanced within this area and uses previous research findings as a basis for statement of the position he intends to take in selecting variables and generating hypotheses for his own investigation From such perusal and reflection he can begin to recognize the full dimensions of the task and the range of possible approaches to its accomplishment If the problem area is creativity, for example, study of the work of scholars like Guilford (1950, 1959), Torrance (1962), and Barron (1958) can serve to show variations in theory especially in the manner in which creativity has been defined operationally

More will be said later about a number of widely used behavioral science models that would seemingly hold promise for extensive utilization in naturalistic studies At this point, it is enough to repeat here that as the problem becomes defined, the next step to be taken is a search of the scientific literature for whatever enlightenment it can bring the researcher

Whether or not he borrows his theoretical constructs from elsewhere the investigator must have a rationale This rationale provides a plan for testing the hypotheses under consideration It includes statements about what data will be gathered, by what means, and on what population of subjects Key concepts must be identified not only generally but also operationally Out of the universe of possible types of empirical data that might be selected the investigator's plan indicates which ones will actually be included In this

volume, stress is placed on those behavioral manifestations of the constructs under study that are readily measurable through observation of ongoing activity.

This restriction of hypothesis testing to those limited sets of behaviors that can be measured naturalistically does not preclude the use of other types of data nor additional tests of theory. What is proposed instead is multiple operationalism in which several independent and imperfect measures are hypothesized as underlying the same theoretical constructs. As Webb et al stated (1966, p 3)

> Once a proposition has been confirmed by two or more independent measurement processes the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of measurement processes. If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it.

This statement of rationale, of course, does not necessarily assign equal weight to all measures, for as Prosser (1964, p 216) observed "   there is still no man who would not accept dog tracks in the mud against the sworn testimony of a hundred eyewitnesses that no dog had passed by " Care should be taken to indicate those measures that are most crucial in the overall test of theory.

A full description of steps to be taken in designing a research plan and drawing up a rationale was well prescribed by Fox (1969) and need not be repeated here. Only with a solid rationale can operational procedures be successfully delineated in relation to research theories and hypotheses. This statement of rationale should describe the kind of behavioral dimensions that make up the problem area and the situations which most likely are involved.

To give an hypothetical example, say that someone wants to study the strength of the competitive spirit in a given group of people, for example, a sales force. He could well afford to turn to McClelland's (McClelland et al, 1953) achievement motivation theory for assistance in constructing a rationale and determining appropriate procedures. He might decide that it would be inappropriate to have these salesmen write stories about various occasions where their conversations are structured in much the same way. Just as the person who is oriented to high need achievement is more likely than others to write stories of people striving for something, running into obstacles, and finally achieving their goals, his normal "off-the-cuff" conversation with peers is more likely to include minor achievements of all sorts (for example, getting the best of someone else, outdoing others, attaining bargain sales, receiving recognition and playing down the accomplishments

of others) Starting with this kind of rationale and using McClelland's scoring criteria as guidelines he could soon evolve a plan for recording need achievement data from this group on a systematic basis during its lunch and coffee-break periods

Even if one did not know the conversants as in the case just cited but merely wanted to check on the proportion of comments in ordinary restaurant conversation that reflected the need achievement theme the preceding rationale and procedure should work Sex and social class comparisons could also be made by selecting restaurants that cater to different sexes and classes

Theoretical considerations then generally underlie category and rating systems that serve to describe behavior Careful reflection about the rationale of a study is the only way to plan in sufficient and consistent detail the collection and analysis of necessary data

BEHAVIOR IDENTIFICATION

Following problem clarification—and perhaps model selection—the next task is determining the kinds of data needed A rationale needs to be developed to the point of operational definition What is meant by need achievement for example is defined behaviorally as what a person exhibiting this characteristic actually would be likely to do or say in specific situations

Traits characteristics, or human qualities are relatively meaningless unless they can be anchored to some kind of denotable behavior As Ackerman (1954 p 286) pointed out to describe a teacher as intelligent or to report his IQ helps us but little unless we know how this manifests itself in classroom behavior Those precise aspects of behavior deemed most indicative of the traits being explored must be identified and built into either a category system or a rating scale so that they can be handled quantitatively Except in rare cases anecdotal recordings do not provide sufficient systematic coverage of behavioral details to be useful for research purposes The category system or rating scale then becomes the final statement of problem of what is to be explored and what is to be ignored

A more extensive coverage of behavior classification systems will appear in the next chapter At this point it is necessary only to point out the intimate relationship between problem statement and theoretical constructs on the one hand and actual descriptive categories on the other What a given researcher actually means by creativity or some other global term he claims to be studying can be ascertained by inspecting his data gathering instrument and seeing the exact behaviors he is rating or classifying If researcher A

lists 20 behavior samples under the heading 'creativity' and researcher B lists 20 different behavior samples under the same heading, the reader may conclude that "creativity" is a trait that manifests itself in numerous ways He may also conclude, after analyzing the two lists that A and B are actually studying different traits

One other idea needs to be stated about the relationship of theoretical constructs to behavior dimensions Early attempts at using human observers tended to include an exhaustive set of observation categories and focus on purely physical acts such as pushing or touching, in order to achieve high interobserver agreement Because categories became less and less tied to a theoretical base, predictive efficiency was minimal Observers could gather data accurately, but their findings had little relationship to meaningful variables Today categories chosen are usually less exhaustive of all the ongoing behavior and are more closely linked with theoretical constructs and specific questions to be answered (Heyns and Lippitt 1954, p 371)

Observational data possess little meaning by themselves They allow only inferences to be made about people on the basis of their behaviors In an effort to achieve maximum objectivity therefore, one is tempted to focus on small discrete acts When this happens the meaning of such behavior can be easily lost. The significance of a given act is in part determined by its relation to previous behavior and to other tendencies of the person One four-year-old hugging another for example may really be an act of aggression rather than affection Without relating hugging in this case to such other cues as facial expression voice tone, and instigation factors one might easily misclassify this as the affectionate act it often is

Thorndike and Hagen (1961, p 411) referred to the characteristic of "outsideness" as a fundamental feature of any observational system Outsideness refers to the external features of an observation in contrast to the subjective meaning of the event for the person whose behavior is being recorded What the observer sees is what a person does not what it signifies

Outsideness is exaggerated when little bits of behavior are analyzed out of context Some years ago a colleague (Greene 1952) was sifting through anecdotal records of school situations categorizing instances of teachers handling of children Some of the acts he labeled as positive ways of dealing with children and others as negative He also classified pupils responses on another scale wherein those that followed the teachers' wishes and were accompanied by positive affect were considered positive responses and those that did not produce the teacher-desired responses or evoked negative emotion were considered negative responses He was interested in seeing if positive types of teacher handling brought forth more positive pupil response than did negative handling Even though this predicted relationship did show up most dramatically, there were a few instances where positive teacher han

dling preceded negative pupil response One instance occurred when a teacher praised (a positive teacher act) a fifth-grade boy for staying clean during recess and then asked some of his male classmates why they could not keep as clean The praised boy merely hung his head and muttered, "Ah shucks!"—a clear-cut negative response Both the teacher and the observation system, though basically a good one, did not take into account the meaning of this bit of praise for this particular behavior in front of the boy's peers In the mind of this rather timid youngster, who had spent the recess on the fringe of a group of peers as they took turns jumping across mud puddles, he was being criticized He had been watching the group and had just about mustered up enough courage to try jumping the puddles when the bell had rung

Outsideness can best be controlled by developing a rationale that takes into account different behavioral manifestations of the same dimension so that various validating and cross-validating data are procured The rationale should anticipate major behavioral cues indicative of key dimensions and should elucidate other kinds of evidence that could be used for support purposes The use of a concurrent, conversational type of interviewing can provide additional information regarding the meaning that events have to the persons being observed Lindeman (1924) pointed out that the interpretation of an event can be approximated only by combining two points of view, the outside and the inside He stated (Madge, 1953, p 131)

> Thus the view of the person who was a participant in the event, whose wishes and interests were in some way involved and the view of the person who was not a participant but only an observer or analyst, coalesce in one final synthesis

More will be said in Chapter 5 about conversational interviewing as an adjunct to straight observation Naturalistic study requires a combination of several types of data for the full interpretation of ongoing events

A recent example of combining the inside and outside points of view has been provided by Smith and Geoffrey (1968) Smith kept running accounts of activity and behavior in Geoffrey's classroom for an entire semester between each day's observations he quizzed Geoffrey about why he had done certain things and what his reactions had been to various happenings of the past day Geoffrey's responses were then added to Smith's record as part of the overall data to be analyzed at a later time Perhaps the presentation of a study is appropriate at this point, not only to illustrate attempts to control for outsideness, but to show the sequence of steps from problem statement to data gathering and eventually to findings and conclusions

The study (Sutphin 1965) began when, after leaving their three young children in the care of a 50-year-old baby sitter (Mrs B), two parents told

their neighbor (Hilda) across the hall to 'keep an eye on things' and then departed on a week's convention trip Hilda took the request seriously enough to lay out an observation scheme that would enable her to gather information unobtrusively about how well Mrs B was doing her job

First, Hilda decided what her own major criteria were for adequate child care, leaning heavily on human development course work and readings She knew she had to be selective because she could not adequately watch everything She selected two areas and made the following listing

A Physical Care
  1 Meals
    (a) Are adequate meals served?
    (b) Are children encouraged to eat?
  2 Dress
    (a) Is bathing supervised to be sure children are clean?
    (b) Are children dressed suitably for weather and appropriate for occasion?
  3 Play
    Are children observed sufficiently during their play to maintain their safety?
  4 Rest
    (a) Is bedtime regulated?
    (b) Do children get sufficient rest?
  5 Control
    Is discipline administered appropriately?
B Psychological Care
  1 Security
    Is emotional support given in view of separation from parents?
  2 Recognition
    Is Mrs B available for praise or sympathy over the children's triumphs and disasters?
  3 Discipline
    Are side effects of discipline adequately provided for?

Although each of the questions listed above still required finer breakdown and operational definitions, they described the nature of the problem and the outlines of the rationale needed to give direction to the undertaking For example, much extraneous information about the baby sitter, such as her attire and interests, was clearly excluded from the scope of observation

Determining a system for data collection became Hilda's next concern She decided that her every encounter with Mrs B and the children would be used to listen for comments regarding any of the areas listed above Her own role would generally be restricted to exchanging pleasantries and show

ing interest in what they said, although she might occasionally ask a leading, open-ended question, for example, 'How was dinner?' By writing down verbatim comments regarding these areas as soon as she was by herself, Hilda planned to keep a running log of pertinent material If the episodes were not too lengthy, she felt that all pertinent comments could be remembered long enough to write them down afterwards, especially since much irrelevant conversation need not be recorded In addition to this open-ended interviewing plan, Hilda arranged to observe periodically what Mrs B and the children were doing, especially at mealtimes, bedtimes, and during play activities As it turned out, over 25 separate encounters or observations were made during the course of the week, which provided varying amounts of material for Hilda's log

Her next task consisted of processing the material in the log and itemizing the different comments and observation entries under her key questions A sample of material covering one of the areas follows

A Physical Care—Meals

1 L remarked that she was required to eat peas, which she didn't like
2 L remarked that they had had spaghetti four times in seven days
3 Mrs B mentioned giving W rich orangeade every hour while he was sick
4 Observed table with salad
5 Observed W's lunchbox packed neatly with sandwich, fruit and cookies
6 Several requests by Mrs B for purchasing milk or bread
7 Children never observed asking for food

Hilda was able to muster sufficient information under the various headings to draw a tentative conclusion that Mrs. B generally provided adequate physical care but inadequate psychological care for the children during their parents absence Although data gaps are quite conspicuous in the preceding sample, as they are in other areas of her data, there is still considerably more concrete, systematically obtained behavioral information on which to base a judgment of Mrs B's baby-sitting ability than typically is considered More frequently, conclusions are drawn on the basis of one or two relevant items that stand out in one's memory because of their dramatic qualities—for example, a child being spanked or a single instance of permitting children to stay up for a special show, and several irrelevant items such as Mrs B's occasional use of cuss words or her disheveled hair Furthermore, if the parents wanted not only an evaluation of Mrs B but the particulars how much better the résumé would be after such a study The parents could draw their own conclusions after hearing the evidence cited in specific form

Although Mrs B did not realize such a study was being made of her

baby-sitting qualities—nor did anyone other than Hilda—it is highly probable that she would have preferred judgments to be rendered on the basis of such systematically gathered information than on hearsay and personal whim (unless, perhaps, the latter were obviously in her favor)

Perhaps one might well question whether such a study is worth all the trouble and if there are not more important problems to be tackled in naturalistic observation This does seem to represent a relatively insignificant problem Nevertheless, it illustrates many of the features of naturalistic observation Also, its design could be used with modifications by a baby-sitting agency that wished to study the effectiveness of its own personnel

Outsideness was partially overcome in this investigation by utilizing several sources of data, by making observations at different times, and by obtaining comments of the various persons involved Mrs Bs own unsolicited comments tended, by themselves, to indicate her own thoughts about her baby-sitting role

Despite precautions taken to overcome the outsideness tendencies of straight observational research, some almost always persist For this reason, one can expect to find a certain amount of inconsistent data of the kind Greene (1952) obtained from his fifth-grade boy who was praised for being neat A sufficient quantity of episodes should be included in any study in order to detect the extent of support versus lack of support for one's hypotheses Greene actually found, for example, that to positive teacher handling children responded positively on 687 occasions and negatively only 29 times, whereas to negative teacher handling they responded negatively 252 times and positively in 84 instances (Brandt and Perkins, 1956, p 57) Seldom in behavioral research can quantitatively greater support for hypotheses be found than these figures provide, yet there are 29 exceptions to one rule and 84 to the other, over 10 percent of the situations analyzed

Identification of behaviors to be observed, then, represents the end state of theorizing and problem defining There should be a consistent thread linking all three. Only if the right questions are asked in the first place can one obtain the kind of answers needed to improve institutional practice And even if the right questions are asked, appropriate deductions leading to concrete behavioral dimensions must also be made

PROMISING MODELS FOR NATURALISTIC STUDY

The remainder of this chapter is devoted to reviewing a number of theoretical models from basic behavioral science, all of which seem to be particularly useful in naturalistic investigation Each model will be

described briefly in outline form and then in use in a naturalistic setting It is anticipated that each description will stimulate the reader to think of other useful models and many variations in the circumstances where they can be applied In other words, no attempt will be made to include more than a fraction of the possible borrowings from behavioral science

Role Theory

Any social group can be analyzed in terms of the roles that the various members play during group activities Each person makes one or more kinds of contributions to total group functioning Every group has those who lead and give direction through suggestions of what to do and how to do it, as well as those who follow and abide by such suggestions As with other roles, the leader and follower functions may shift from one member to another at different times and members may assume different roles at different times Many groups furthermore have a jester, one who keeps every one laughing with jokes, stories and wisecracks a judge, who arbitrates when someone believes he has been wronged a convener who gets every body together; a janitor, who cleans up after group activities and stores equipment, and perhaps some fringers, who are included in activities where a larger membership is needed Numerous other roles also can be identified as one observes the functioning of particular groups

Groups accomplish much or little, interact harmoniously or antagonistically, become tightly knit or disintegrative—depending in great part on how much the performances of the members coincide with role expectancies held by other members, how truly complementary are the roles that members assume, and how much these roles fit the aims of the group Any group can be understood in terms of its aims which give direction to its activities and which can be achieved only if necessary roles are played in coordination with each other Therefore, the dissection of group activity into the various roles members play, the degree of role compatibility, and the amount of confusion over role expectancies contribute to a most useful analytical process

One outstanding study that shows the depth to which role analysis can go as an applied research tool was conducted on school superintendents in the state of Massachusetts a few years ago Gross and his colleagues (1958) discovered the complex and conflicting constellation of roles that chief school administrators must assume in their daily activities The conflict in role expectancies between how they, on the one hand, and their board members, on the other, defined their jobs was considerable in most cases, not to mention other role conflicts they perceived between their private and public lives An excellent review of role theory appears in Handbook of Social Psychology (Sarbin and Allen, 1968) Role theory is useful not only in analyzing

group functioning and figuring out why some members get along and others do not, but also in breaking down the specific nature of a given person's job or assignment The typical job analysis done by members of an industrial personnel department represents an application of role theory within the confines of a particular institution The actual tasks or activities a person engages in as a member of that institution are itemized, generally by keeping some kind of record of what he does over a given period of time and describing his activities generically, in relation to the overall operations of the institution

The value of such job analysis is obvious It may reveal, for example, that a clergyman may be spending more time in ordering equipment, food, and material paying bills dealing with service people and conducting fund raising campaigns—all business roles—than in preparing and delivering sermons and conducting church services and religious meetings On the other hand he may be spending more time calling on and counseling 5 percent of the congregation than on all other activities combined Only as a record is kept of what he does can he or others for that matter, become cognizant of the multiple roles he assumes and just how much time is spent in each Like the harassed school administrator, which Gross and his colleagues (1958) described the modern clergyman may well be differentiating his assignment into too many roles and into many for which he has not been trained Mental breakdowns among the clergy are becoming much more widespread than they were during the early part of the twentieth century (Bier 1960)

Frustrated by a perceived lack of time for professional reading and class preparation a college professor (Brandt 1958) made a survey of his own institutional activity a few years ago, covering half a semester As Figure 3 1 shows his frustrations were well founded Almost as much time had been spent attending meetings and assuming various committee assignments (26 percent) as in teaching classes acting as a child-study consultant, or conducting research (35 percent), even with preparation time for the latter activities included Needless to say, preparation had certainly been minimal over this particular period Another potential source of both professional stimulation and satisfaction also had been missing, namely interaction with fellow faculty members Only 6 percent of his time had been spent in in formal peer conversation or activity, and most of even this limited amount had dealt with office business rather than professional ideas This eye-opening self-study caused this particular professor to change a number of behavior patterns in subsequent years and eventually to assume a much more satisfying assortment of roles In a similar study (Stewart, 1968), management personnel kept diaries of their working days and after inspecting their own entries closely they took steps to cut down on the amount of interruption and fragmentation they had been experiencing
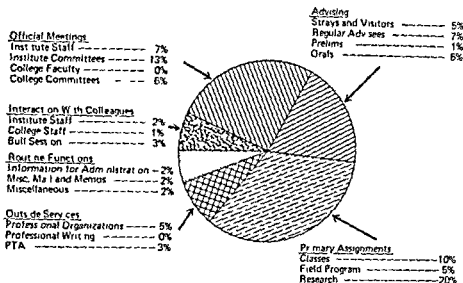
Official Meetings
Institute Staff --------- 7%
Institute Committees ----- 13%
College Faculty --------- 0%
College Committees - - -- 6%

Interact on With Colleagues
Institute Staff ---------- 2%
College Staff ----------- 1%
Bull Sess on ----------- 3%

Routine Functions
Information for Adm nistrat on -- 2%
Misc. Ma l and Memos ------ 2%
Miscellaneous ---------- 2%

Outs de Serv ces
Profess onal Organizations ---- 5%
Professional Writing -------- 0%
PTA ---------------- 3%

Advising
Strays and Visitors --------- 5%
Regular Adv sees ---------- 7%
Prelims --------------- 1%
Orals ---------------- 6%

Primary Assignments
Classes ---------------10%
Field Program ------------ 5%
Research --------------20%

Fig 3 1. Proportion of Time Devoted to Various Job Responsibilities
Based on unpublished data collected by one staff member on his own
professional activities during the eight weeks beginning 5/20/57,
5/27/57, 10/7/57, 11/18/57, 1/27/58, 2/3/58, 2/10/58, 2/17/58
(Brandt, unpublished.)

Role theory can aid in more than surveying the multiplicity of teaching
and extra teaching duties one performs, it has recently become extensively
used to obtain objective descriptions of what teachers do in the course of
conducting lessons and of other aspects of classroom transactions Ever since
H H Anderson (1939) first pointed out that a teacher performs on the
average of about 350 distinct teaching acts in an hour, researchers have been
attempting to discover and label them Out of this effort, teaching has come
to be described in much more precise terms than ever before It has been
analyzed on the basis of the functions that given teacher statements per
form, such as channeling a discussion in a particular direction or recognizing
a personal need of a student The specific roles that teachers or students
assume as they talk or act have been identified and tallied in numerous
important studies of classroom behavior On the basis of his research of this
type, Flanders (1961) has been led to conclude that successful teachers are
able to shift teaching roles more readily and widely than unsuccessful teach
ers Hughes (1959, 1962) has identified over 30 different types of functions
that teachers perform She reports that controlling, regulating, and directing
children (plus structuring their assignments, work habits, and thinking pat
terns) far outnumber other teaching functions that would seemingly extend

children's thinking and cause them to relate and synthesize ideas. In the classrooms Hughes studied, children generally were not found to be leading class activities, speaking their opinions, and determining what would be studied or how to go about it, as some educational critics would have us believe. Quite the contrary, both in thought and action they were highly regimented children.

More will be said later about classroom interaction studies, but it may be said here that role theory is receiving considerable attention in recent educational literature as it applies to the analysis of teaching behavior.

Reinforcement Theory

Such outstanding learning theorists as Skinner, Hull, Miller, and Dollard, to name but a few, have long stressed the principle of reinforcement in the learning process. Behavior tends to recur if it is reinforced and tends not to recur if it is not reinforced. Thus, if a child who does not attract his mother's full attention with ordinary voice tones happens to raise his voice sharply one day, with the consequence that his mother drops her usual preoccupation and starts to listen to him fully, he is more likely to raise his voice the next time he interacts with his mother.

Typically, the reinforcement principle begins operating when a person makes a particular response, regardless of the reasons, and this response brings forth a reinforcement of some sort. This reinforcement may take the form of material reward, special privilege, praise or recognition from some one else, knowledge that his response is right, positive stimulation of some sort, or even lessening of noxious stimulation. Thus, candy, money, kind words ("good job Bill"), seeing something new or interesting, and having loud irritating noises quieted are only a few of the hundreds of examples of stimuli that act as reinforcers, tending to make the preceding behavior recur on subsequent occasions.

Under the influence of progressive education, a gradual shift took place away from the use of negative physical reinforcers such as the cane or hickory stick, which tended to suppress behavior. In many school systems today the teacher is not even allowed to touch a child in an attempt to control him. But as Skinner (1968, pp. 15–16) pointed out

> a change has been made, not from aversive to positive control, but from one form of aversive stimulation to another. The child at his desk, filling in his workbook, is behaving primarily to escape from the threat of a series of minor aversive events—the teacher's displeasure, the criticism or ridicule of his classmates, an ignominious showing in the competition, low marks, a trip to the office "to be talked to" by the principal, or a word to the parent who may still resort to the birch rod. In this welter of aversive

consequences getting the right answer is in itself an insignificant event, any effect of which is lost amid the anxieties, the boredom, and the aggressions which are the inevitable by products of aversive control.

Direct physical punishment, then, has been replaced by various forms of social punishment—ridicule, sarcasm, class approbation, and lack of personal praise or encouragement If Skinner is correct in his assertion that most of these social reinforcers are still of the aversive and negative type, it is little wonder that children's responses often leave something to be desired

A considerable body of evidence indicates that punishment is relatively ineffective as a long term device for weakening bad habits and that its main virtue lies in suppressing misbehavior for a time (Tharp and Wetzel, 1969, pp 106-107) The major kind of situation where it does seem to be effective is when correct alternative behavior is performed and either reinforced positively or punishment is at least lessened Decreasing the use of negative reinforcers following desired responses tends to increase the likelihood of those responses being repeated (Tharp and Wetzel, 1969, p 20)

In general, the more frequently and extensively a given behavior is reinforced positively, the more it tends to recur, even to the point where it generalizes to situations other than those in which it was first learned The child who learned to shout at his mother, for instance, may begin to speak loudly to other people

Behaviors that have already become conditioned through reinforcement are usually best eliminated not by punishment but by discontinuing positive reinforcement when the behavior recurs It may take many trials and much patience to uncondition a well learned response, because an occasional reinforcement may reinstate the full strength of the original learning Intermittently reinforced behaviors often seem to be more permanently fixed than ones that have been reinforced during the learning period each time the response occurred This and other aspects of reinforcement theory are described in many books, but for the novice seeking a succinct, well written digest, a short pamphlet by Keller (1954) is especially recommended

Reinforcement theory offers a highly useful model for institutional analysis. It provides a way of discovering undesirable behavior patterns that are receiving reinforcement unintentionally and of identifying behavioral output comes that are not actually receiving regular stress A recent text by Tharp and Wetzel (1969) is particularly helpful in showing how reinforcement theory and behavior modification techniques have been applied successfully in natural environments

In their excellent study of classroom conditions that tend to modify children's self esteem and achievement motivation, Sears and Sherman (1964) found marked inter and intrateacher differences with regard to what teachers

rev ard Differences vere found in frequency of reinforcement of the fol
lo ing four types of qualities as well as differences within each type

1 Products—Example Look at how neat Ruck's letter is with the margins
   v ell established and no smudges"
2 Behavior—Example "I like the quiet way that Lou is working"
3 Intent—Example "Bill, I think its good that you tried to figure that
   problem out by yourself when there was nobody around to help you"
4 Innate attributes such as personality and ability—Example Mark is
   certainly a thoughtful person isn't he class"

What are the specific pupil learnings and behaviors that teachers praise
and discourage? How do school and home expectancies compare? How do
the day by day reinforcements compare with long term curricular goals? Are
the behaviors that receive the greatest attention from institutional represent
atives the ones that institutional objectives suggest should receive major
emphasis? How much reinforcement and for what behaviors does each
child typically receive in just one day? What is the ratio of positive to nega
tive reinforcement for each child? What are effective reinforcers for each
child and each age level? These are the kinds of questions that reinforce-
ment tudies can answer

Lists can be made and items coded and tallied of those characteristics of
pupil work and behavior that bring forth positive and negative comment from
teachers Parent conversations can be gleaned for their specifically expressed
hopes and disappointments regarding their children for these are likely to
reflect the responses that have been reinforced at home Fifteen minute ob-
servations of classroom activity every few days and listing of those behaviors
that receive praise (good work Jim   that's fine Bill   right   good)
and blame (can't you turn in neater papers?" "Mark! turn around   you're
not paying attention   "there's too much talking") can provide an accurate
though perhaps surprising and distressing picture of where the school is
really putting its teaching emphasis A strong argument can be made for the
idea that the school curriculum consists of little more than the sum total of
the practices that are commended condoned and condemned in day by day
institutional activities Very often the teacher does not realize himself what
he really teaches because so many are the decisions and so often are the
comments that he has to make in an hours time in the process of keeping
a class with 30 or more youngsters interested and occupied Considerable
interest has been manifested in recent years in discerning those previously
unrecognized adjustments to school life that determine to a great extent
children s success in meeting t   (Jackson 1968 Overly
1970)
    Analysis of gr   es likewise helps to build
an accurate pictu   school is trying to teach

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its pupils, whether or not it recognizes fully what it is stressing. Some arithmetic grades, for example, may be based on effort (as determined by a record of homework turned in), whereas others are primarily based on test performance. Test performance, in turn, is partly a function of the kind of question asked. An analysis (Lochhead, 1964) of the final examinations from high school science courses, randomly selected from the secondary schools of Virginia, indicated that 78 percent of all questions asked required students simply to recall facts of one sort or other. Yet according to Bloom's taxonomy (Bloom et al, 1956), recall of information is only one of over two dozen intellectual processes. One can only believe that school authorities do not realize how really limited is the repertoire of behavioral responses that they are trying to teach their pupils. The statements of educational purpose that appear in curriculum guides and various policy statements too often are not reflected in the actual reinforcements of daily school life.

Stimulus Response Theory

The conditioning model, in which responses have been brought under stimulus control has been extended into almost every area of learning. For the child who has not yet learned the multiplication table, the pictorial symbol-complex 4×3 does not relate to an appropriate written or vocal response. An accurate, instantaneous response can be made following presentation of this stimulus only after he has practiced multiplication tasks sufficiently well to associate the number 12 with it. Stimulus control is accomplished through such means as telling people what to do and demonstrating how it might be done. It is accomplished also through making strong threats and offering intriguing rewards.

The basic usefulness of stimulus response (S-R) theory is that it highlights the relationship of desired responses (also undesired responses) and instigating stimuli without the confusion of a lot of intervening variables. Once desired responses have been very specifically identified various procedures for attaining stimulus control can be initiated.

In light of this theory, education can be thought of as a process of getting children to make thousands of right responses to given stimuli, each of which originally brought forth no such response. The goals of education are, in these terms, the repertoire of responses that children should be able to make to a great variety of environmental stimuli.

In the early 1900s, when scientific analysis of education first became popular, the S-R model was closely followed. Both the desired responses and most recommended stimuli of education received considerable attention. Comparisons were made of the effectiveness of various drill and demonstration techniques and of textbook and workbook formats in producing adequate responses. For example (Brandt, 1937, pp. 24–25).

Studies by the hundreds were made of the vocabulary in textbooks, of the numbers in arithmetic books and of the problems in science workbooks to determine their appropriateness to the educative process Word difficulty lists were established so that textbooks could be compared scientifically with each other The stimuli of education received a careful screening The educational spotlight was focused on the specifics of what was to be taught (subject matter) at each grade level and how it was to be taught (method), the desired responses and most suitable stimuli of education

More recently there has been a resurgence of interest in both the stimuli and responses of education Overwhelmed by massive amounts of information that now belong to almost all subject-matter fields and by the emergence of new areas of knowledge, educators and subject matter specialists themselves have been working together to revamp educational content In almost all fields, solid and sometimes revolutionary attempts have been made to overhaul past structure and replace it with more fundamental material Bruner's (1963) idea of the spiral curriculum has taken hold In his opinion the basic concepts of a discipline are introduced early in the school years and reintroduced in more extended fashion several times through the total school program Thus, one finds such basic physics concepts as *object*, *interaction*, and *system* introduced to first graders and set theory and number systems other than base 10 are among the first areas of mathematics to which children are exposed in the new math curriculum (Karplus, 1964 Suppes 1964)

Analyses are being made of each field to discern the basic conceptual structure of the disciplines Similarly, new models of instruction are being sought. Teaching machines, tape recorders, computers, and various new audiovisual techniques are just beginning to find their way into the school program Undoubtedly, good uses will be found for each of these potentially capable presentations of content

Reflecting the application of S-R theory to the area of consumer buying habits, a student (Turner, 1965) investigated the attraction value of various container colors as evidenced by food merchandise purchases A variety of products was chosen as were brands that came in similar containers except for the colors of their labels Inventory was taken early and again later in the same day before restocking time In this particular small-scale study, striking differences showed up in number of articles purchased favoring white over pink table napkins, blue over other colors of sponges, pink over green dish washing detergents, among others Although marketing researchers conduct such surveys on a large enough scale to set company-wide production and distribution schedules, local store managers can easily make their own determinations of whether or not their customers fit the national pattern and can shift their orders accordingly The stimulus value of packaging and display

practices, as determined by the response patterns of purchasing, provides a ready model for marketing studies of all sorts

An important series of studies on classroom discipline practices and effects serve to illustrate the utility of the S R model in more complex situations The investigators (Kounin and Gump, 1958) and their colleagues (Gnagey, 1960, Ryan, 1959) were interested in the effect that disciplining a child had on the rest of his classmates This "ripple effect," as they called the audience reaction, was their major response variable. The teacher's control techniques, response of the target child to these control techniques, and certain features of this target child all represented stimulus variables at various times Over the course of several studies, each of these stimulus factors was allowed to vary while the others were held constant, thus permitting analysis of the complex set of interacting effects that characterize classroom situations A diagram of the "ripple effect" studies appears in Figure 3 2, with the boxes
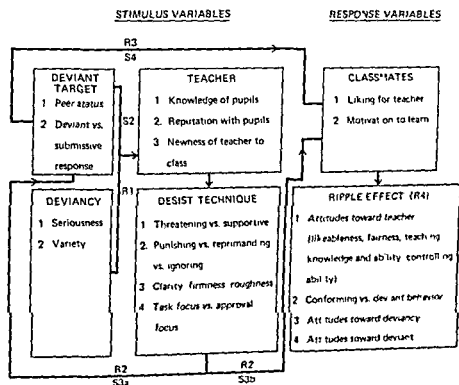

Fig. 3 2. Diagram of Ripple Effect Variables (after Kounin, Gump, and Ryan 1961) SI is absent from diagram as it is an unknown operant stimulus underlying the Deviant's misbehavior

representing the main variables and the arrows showing the sequence of stimuli and responses Thus, the deviant child with certain characteristics effects a deviance of classroom misbehavior of some sort (R1 in Fig 3 2) The latter is also the stimulus (S2) for the teacher to use some form of desist technique (R2) toward the deviant or target child The response of the target child (R3) to this desist technique (S3a) becomes S4 for the classmates S4 is merged with S3b, perception of the teacher's control technique in use, and (depending on certain characteristics of the classmates themselves) leads to R4, the ripple effect

Although the model seems to account rather well for the sequence of events in a classroom misbehavior incident, certain features are not completely clear The ripple effect is really a response to the integration of three or more stimuli (that is S3b S4, and certain characteristics of the classmates themselves), without indicating what proportional effect they each have in producing a particular response

Despite this seeming inadequacy, the model is quite useful in predicting particular effects from variations in given stimuli with others held constant Some of the more important generalizations about classroom discipline that have been reached on the basis of the ripple-effect studies are as follows

1 When classes are perceived as interesting, fewer deviances occur

2 Highly motivated students rate deviances as more serious and disturbing, control techniques as more fair, and teachers as more right than do poorly motivated students

3 The deviant's reaction does make a difference If he submits rather than defies the teacher, his audience rates the teacher as more capable of handling pupils and more expert in general

4 Similarly, if the deviant has high status with his classmates, there is more effect on the others than if he is a social isolate

5 Task focused techniques ("We'll not be able to finish our committee assignments today unless people get to work") tend to elicit more desirable student reactions than do approval focused techniques, which stress the relationship of teacher with students ("I don't like noisy children in my room")

Depth Psychology

A vast psychoanalytic and psychiatric literature has been created over the past 50 years, with much to offer the student of human behavior Many concepts from this literature hold promise as guideposts for investigating deeper levels of human functioning than was possible with previously mentioned models Concepts of extraversion introversion, dominance-subordination, wish fulfillment, projection, ego-ideal, frustration, aggression,

depression, to mention but a few, have come to permeate the speech and thought of layman and professional alike, although not always with the same degree of understanding

While there are limits to the use that should be made of such concepts by institutional agents such as teachers, social workers, attorneys, and priests, in contrast to their utilization by psychiatrists and psychotherapists they can provide significant investigative dimensions Identification, for example, has been considered by many experts as one of the most important of all socialization processes In thinking about the broad spectrum of cultural responses that a growing child must learn if he is to take his rightful place in society, much more is probably absorbed through identification with the significant adult and older peer models that surround him than through direct teaching via reward and punishment. The habits, values, thoughts, feelings and mannerisms that for the most part he will hold in common with other members of his culture are taken over from people he has come to emulate through love, respect, and sometimes fear, not to mention idiosyncratic traits as well

A study of identification takes the form of investigating the models to whom people are exposed and the nature of their attributes It means discovering who emulates whom and in what manner How many Frank Howard batting stances can be observed in Little League baseball or Liz Taylor eye makeups at high school proms?

Naturalistic study possibilities abound in young children's play, where the characteristics of teacher, parent, fireman, policeman, and others are regularly assumed in imaginary activity With older children, the assumed roles may not be so obvious, but they can still be ascertained from careful listening to conversation ('He's not so great Did you hear what Mays did for those orphans?) and checking haircuts, trouser styles, record collections, and reading material The idols of youth are readily apparent

The idols of adult institutional activity exist also, with some persons being emulated and others doing the emulating, as schools, businesses, and unions take on certain special characteristics of their more influential leaders IBM still reflects in part the image of Thomas Watson and the United Mine workers still symbolize the talents of John L Lewis Is not a Paul Brown coached team somewhat different in its style of play from one run by Curly Lambeau? Institutional differences reflect not merely the decisions of its leadership but subtle mannerisms and personality idiosyncrasies as well Perhaps the integrity and efficiency of an organization is partly determined by the extent of identification that its members express toward its leadership and its policies The essence of institutional loyalty probably lies as much in identification as in conformity tendencies and general work attitudes. People cling to a group that they respect and run from one they do not To the extent that they admire and respect an institution, they will identify with

it and want to be identified by others as a part of it So, considerable possi
bility exists for studying the identification models, patterns, and intensities in
specific institutions as a basis for understanding organizational cohesiveness,
morale, membership turnover, and other traits

Another useful construct from depth psychology is Freud's concept of
defense mechanisms Much human behavior can be understood as an attempt
to defend one's own actions in the eyes of oneself and significant others
Thus, arguing or fighting back (aggression), blaming others (projection),
making excuses (rationalization), giving up (withdrawal), daydreaming
(fantasy), acting infantile (regression), and many other behaviors are seen
primarily as ways of maintaining feelings of self integrity in the face of frus
trating or hostile conditions These defenses are as necessary for mental
health as are the rise of body temperature, the development of antibodies,
the increase in white blood count, and other such physiological indicators of
physical health when the body is attacked by infection, disease, or other
stress agents

The wholesome personality is, in part, one whose defenses are adequate
for preserving self integrity in the face of a wide variety of frustrating, po
tentially anxiety producing situations The neurotic or psychotic personality,
on the other hand, is one whose defenses are inadequate for the task and
lead to unrealistic, ambivalent, and unsuccessful behavior For such a per
son, the stresses of everyday life become too great to maintain self integrity
and to function productively

It becomes important, therefore, to determine the extent to which people
are on the defensive in an institutional setting, busy trying to justify them
selves and their actions, rather than being actively productive and goal
oriented It becomes important also to determine conditions that create un
necessary stress, in order to minimize defensiveness when it begins to reduce
institutional productivity as well as to contribute to the wholesome develop
ment of the membership Great variation is found among people of any age
or setting in the extent of defensiveness they manifest, in the conditions that
bring it on, in the particular ways they express it, and in the degree of suc
cess that these manifestations produce

At least one rating instrument (Natchez, 1959) has been constructed for
school use to help teachers estimate the intensity of frustration stimulated
in individual children by oral reading activities It also indicates particular
directions that their defensive reactions take to counter this frustration This
rating scale follows Horney's (1945) classification of defense mechanisms
into three types, based on the direction of behavioral responses (1) aggres
sive reactions, that is, moving *against* the frustration source (2) dependent
reactions, that is, moving *toward* the frustration source, (3) withdrawal re
actions, that is, moving *away from* the frustration source The rating scale
consists of a number of typical behavioral manifestations of each of these

three types of defense, and the teacher merely checks the appropriate one as the child takes his regular turn in the reading group As one might suspect, striking differences are reported between good and poor readers by the degree of frustration over the oral reading situation The type of defensive behavior manifested by a child's reading furthermore, is consistent with the type of defensive behavior exhibited on the playground and in other school activities

The defense mechanism model seems useful therefore, as a framework for assessing the extent of children's frustration in various school activities and for recognizing behavior that is primarily protective of self when it occurs Without such recognition teachers are likely to strike back at pupil reaction, especially aggression which only increases tension still more Such circular reactions can lead to detrimental development for the child and unnecessary frustration for the teacher Little else is accomplished

Recurring Pattern Analysis

Although it is not a theoretical model in the same sense as those already discussed recurring pattern analysis is based on an underlying assumption about human behavior It should be mentioned in this chapter therefore, which is heavily devoted to theoretical considerations

The basic assumption of recurring behavior analysis is the idea that the more frequently a person repeats a given behavior or behaves in similar fashion the more reflective is that pattern of his personality structure In other words what a person is depends on what he does in daily behavior in a wide variety of situations Each instance of behavior furthermore carries equal weight during interpretation The more repetitious specific acts are the more indicative they are of the values attitudes and other subjective elements that presumably govern his behavior In this sense a person is really viewed as a bundle of habitual behaviors with the strongest habits being the clearest indicators of who he is

In contrast to research designed along the lines of the models described so far recurring pattern analysis is characterized by both low manipulation of antecedent conditions and low imposition of response units Whatever records or materials are to be analyzed have been made or collected with minimal structuring by the investigator Their analysis is accomplished inductively by reading one section after another and identifying behavior or thematic material that is repeated Theoretically based research on the other hand, tends to be low also in investigator manipulation (if it is conducted naturalistically) but high in response imposition The underlying rationale for the observational measures is derived deductively from a set of hypothetical constructs

Recurring behavior analysis is a primary tool of those critics of psycho-

logical instrumentation who point to the difference between how people fill out a questionnaire or perform on a test and how they behave in ordinary life (for example Sechrest 1969) Much is often made for example of the person who has the highest score on an honesty test but who is caught shoplifting or engaging in some other form of dishonest behavior

As indicated in Chapter 1 questionnaire or test performance is only a momentary sampling of behavior It may not be indicative of a given individual's typical performance because no instrument has perfect reliability nor are most traits completely stable It would be uneconomical to administer sufficient tests over and over again to counterbalance these variables Furthermore despite good administrative precautions in test giving, most tests questionnaires and rating scales usually have an air of artificiality about them The tendency to respond to questions with socially acceptable rather than honestly held reactions is strong in many people The tendency to fool oneself is equally operative For these reasons a good case can be made for describing or assessing people by listing and summarizing what they do day in and day out and keeping some kind of running record of their behavior

Recurring behavior analysis is especially useful in identifying unconsciously motivated patterns of which the subject is unaware but which the careful observer can see In a sense this is a technique that the skilled psychoanalyst uses as he listens to the ramblings of his client Identification of recurring patterns can well be the beginning of analysis of human behavior in depth Furthermore when recurring patterns are compared with tests questionnaires and interview responses they make possible a more complete diagnosis than is permitted by any of these tools by themselves Such a diagnosis will be presented in part in Chapter 6

In addition to the noting of individual behavior patterns it is also fruitful to investigate repetitious events and activities Institutional analysis may include an inventory of activities that it sponsors over a given time period and may consider various other happenings Keeping some kind of log or running record that later permits listing of recurring activities and key episodes can produce an excellent status survey

Written documents likewise can be scrutinized closely for recurring thematic material The scoring system that McClelland et al (1953) developed for assessing achievement need from projective test responses is little more than recurring thematic analysis A classic study of children's textbooks by Child Potter and Levine (1946) began with identifying and counting thema according to Murray's (1938) system of needs A major feature of the 914 readers these investigators surveyed was strikingly revealed through this process namely the preponderance of males over females as central characters in the stories There were two and a half times as many male as female characters Female characters furthermore were portrayed

more often with inferior characteristics Surprisingly, story book children were found to exemplify more socially approved behavior than story book adults, especially in the incidence of aggression and acquisition The investigators also utilized conditioning theory to analyze the story book consequences of various behaviors and found that effort and hard work were frequently rewarded as well as learning new skills and acquiring knowledge

A small scale replication (Callis, 1965) of the children's reader study, but based on more recent materials, generally supported the findings of Child and his associates Over twice as many males as females appeared in stories that contained single main characters Male characters, furthermore, turned out to be more aggressive, outgoing ambitious, and competitive than girls Girls were typically characterized as more cooperative openly emotional, more foolish than boys, and less socially poised

The analysis of behavior through time to determine the incidence of various types of actions is also applicable to community situations By stationing herself on several occasions near the entrances of several liquor stores in one southern community, a student (Kuhn 1966) was able to detect several consistent patterns of consumer behavior

1 One store was frequented more than the others and twice as much as one other store

2 The racial distribution of customers varied considerably from store to store (from 15 to 55 percent Black), probably reflecting the neighborhood in which they were located, but certainly indicating some desegregation in each location

3 The ratio of males to females remained fairly constant at approximately 5 or 6 to 1 in all stores and for both Whites and Blacks

4 The number of customers entering all three stores between five and six o'clock was almost twice as great as that of customers entering the stores during the noon hour (12 to 1) and over twice as great as during either the 10 to 11 or 11 to 12 hours

5 The percentage of male Blacks who left the store with their purchases apparently concealed in pockets under sweaters, behind other bags, or in jackets was significantly greater than that of Caucasian males, although no such difference was found among female customers

The meaning of this last finding is not clear without considering (a) parking facilities at the different stores since concealment is more likely to occur if one has farther to walk (b) size of purchase, since pint and half pint bottles are readily concealed, and (c) perhaps type of clothing Possible interaction effects from any of these factors with the Black White distribution differences reported in finding (2) could readily account for finding (5) Prices, incidentally, were the same in all stores

Liquor store personnel themselves could probably gather better data on many of these factors if they were to attempt a customer survey Nevertheless, this study does show how selected human behavior patterns can be observed unobtrusively *in order to determine the extent of their occurrence in particular locations* From other data *in the case above* (the percentage of Blacks and Whites in various neighborhoods and in the community as a whole), deeper level interpretations could also be made Observation of various patterns coupled with careful participant interviewing can lead to accurate description of community structure and functioning

Field Theory

The contributions of Lewin and his associates (Lewin, 1936, 1939, 1958, Lewin et al, 1939) and other field psychologists have much to offer the applied behavioral scientist. Their theories stress the importance of the totality of behavior within natural environmental settings, the perceptual basis of psychological reality, the dynamic constellation of supporting and conflicting field forces, the goal-directedness of individual behavior, and the significance of the group

The writings of field theorists should be especially useful to the naturalistic observer because they *are much more* interested in testing out their ideas in everyday affairs, although these psychologists sometimes conduct solid laboratory research Problems they are prone to investigate are often important also to the man on the street (for example, prejudice, conformity, and leadership) Even the behavioral units they choose to observe are different from those of *most* behaviorists, for as Wright and Barker (1950, p 79) indicated, the individual—

> does not sweat or salivate, nor does he often bend his knees in walking, manipulate his tongue in talking *more* his eyeballs in reading, or bend at the waist in sitting down He walks, talks, reads, or sits *down*, leaving his glandular and motor apparatus to take care of the sweating, salivating, bending, manipulating and all such molecular units of behavior which, as molecular, are lost to the person in what he actually does

As Deutsch (1954) pointed out, the behavioral transactions of an individual with his environment are brought about through various physical and physiological processes, but these processes are *merely* the mechanisms whereby behavior is carried out. They are not the primary behavior in which the field theorist is interested

The problems of the field theorist are inclined toward the ordinary world of affairs and the behaviors he observes *are* molar ones, nevertheless, his research models and investigative procedures are often directly applicable to the problems that the applied behavioral scientist intends to study The pioneering study of Lewin, Lippitt, and White (1939) of the effects of

authoritarian, democratic, and laissez faire leadership on group atmosphere and productivity has been used, perhaps with modifications, numerous times Lewin's (1958) experiments with group discussion in his successful effort to get people to change their food habits during World War II, have been widely repeated in numerous industrial settings Group decision making is standard administrative practice in many concerns today, as Riesman (1950) and W H Whyte, Jr (1956) have well publicized, partly as a result of the Lewin experiments and their replications

Three ideas from field psychology seem to be especially relevant at this point and will be discussed briefly

Group Dynamics One idea from field psychology which at the time of an early Lewin (1939) publication on this topic was considered too amorphous or inconsequential for serious scientific study Psychologists focused on individuals, not on groups The notion was advanced and tested by Lewin and his associates, however that groups have characteristics worthy and capable of study and that an individual is greatly influenced by the groups to which he belongs (Deutsch, 1954) As a direct result of this effort, group structure and interaction patterns have been subjects of extensive research and writing ever since Numerous illustrations for the applied behavioral scientist to follow can now be found in the vast literature covering this field of group dynamics (Cartwright and Zander 1953 Festinger and Katz, 1953 and Hare et al, 1955)

Life Space Concept A second key concept from field theory is summed up in Lewin's term *life space* (1951) This refers to the person and his perceived environment, which make up one constellation of interdependent factors that interact to shape behavior Life space includes the psychological environment and the world as perceived by the individual, which is determined both by his own goals needs, and other characteristics, and by features of the objective environment It also includes the person himself, especially the perception he has of himself in relation to the rest of his life space

This concept calls for full-scale appraisal of the individual's environment (particularly his perceived environment at the moment of action) if his behavior is to be predicted or even understood—not merely awareness of his general personal attributes It is in these two aspects of the environment that possibilities for especially useful data gathering exist, namely, the non psychological milieu in which he is regularly immersed, on the one hand, and the perceived or psychological environment, on the other

The outstanding example of environmental description of the first type is the Kansas town of 715 people that Barker and Wright (1954) call "Mid west" Several years of data gathering went into the description and analysis of the objects, events, expectancies, and other features of the Midwest envi

ronment that together made up the physical and social background in which
children's experiences were shaped

Although particular features of this objective environment that need to be
included are not always the same from study to study, careful reflection
about the interests of the institution undertaking a study should permit iso-
lation of the most important ones Chein (1954) stated several features that
are likely to be of concern to psychologists

1 Stimuli that are likely to initiate change in activity
2 Goal objects and noxae, which make particular objects or situations pleas
   ant or unpleasant
3 Supports and constraints, which make particular behaviors feasible or not
4 Directors, which tend to induce specific behavior directions
5 Global features, that is, stability, structure, etc

Patterns of life in a community or family are identifiable to some extent
merely from an objective description of neighborhood, yard, or house, as the
case may be Below is a brief write-up of a case like this and the possible
interpretations that might be made from it (Garner, 1965)

Data

1 *Neighborhood* Located on the fringe of a small New England town, a
   block away from storehouses, a rail line, supply depots, and rolling
   pastureland The neighborhood houses are uniformly brick with white
   painted wood trim concrete walks connect these homes to a blacktop
   street The lots are a quarter-acre in size with a larger backyard than
   front The houses cover a rectangular ground space of 20 x 30 feet and
   are all single story The probable room number would include a living
   room, kitchen, bath, two bedrooms a hallway, and basement
         The yards contain evergreen shrubs for landscaping crabgrass, and
   small trees
         Mrs D's yard is unique in that it has two overturned metal lawn
   chairs in the front yard under a small beech tree The backyard con
   tains a black, small Scotch terrier chained to a small doghouse, a circular
   aluminum rope clothesline and a small (possibly homemade) grill and
   pit The yard generally appears as not so tidy or so well kept as ad
   jacent yards Weeds show here and there on the lawn, several papers are
   strewn about, and two large cans are under the beech tree

2 *House Interior* The front door, at middle front of the house, has crack
   ing veneer at the base and three diagonally placed square windows in
   the top It opens into the living room, a 10 x 20 foot room and directly
   opposite the opening into the hall The floor is the most obvious part
   of the living room—creating an effect that is intensified by the soiled,
   pictureless, dark brown walls and ceiling The wall is especially soiled
   at the corner of hall entrance and living room The floor is rugless and
   very worn, covered with a moderate amount of dust The lack of decora

tion and simplicity of furnishings further contribute to the plain effect of the room The rest of the room is neat and free of clutter

A cloudy picture window at the front of the house is graced by a pink, new looking Singer sewing machine on a worn wooden table A faded slip-covered sofa is opposite the window, angled against the wall (slightly away from the wall at one end)—allowing for placement of TV dinner trays behind it. One end of the room, bounded by the front and hall entrances, is centered by a large-screen TV set upon which rests a contrastingly expensive looking man's black felt hat The opposite side of the room is lined by two worn chairs—one forward of the other End tables bound the sofa arms, and are topped by multicolored, crocheted, ruffled doilies, and by lamps These doilies underlie and decorate cut glass dishes of lemon drops and the lamps on each table

Singling out key details from the description above and formulating possible interpretations of their meaning, the following list is compiled

Details	Suggesting the Following Hypotheses
1 Yard not so well kept as neighboring yards, overturned lawn chairs, papers, cans weeds	Inability or lack of interest in aspiring to middle-class ideal of neatness of yard, gardening, etc. (The neighborhood is obviously middle class, as seen by uniformity and size of homes, near-suburb location and landscaping)
2 Lack of rug worn floors	No interest in caring for a rug or floors difficulty in caring for or using a rug insufficient funds for a rug purchase
3 Dirty walls, especially near hall entrance	Dirt concentrated at entrance to hallway suggests that corner might be used as a pivot point for young children or others
4 Lack of pictures, mirrors, faded slip cover, dust on floor, cloudy picture window, room arrangement lines walls without any esthetic flourish	Inability (physical, perceptual) or disinterest in cleaning or decorating

| 5 Large-screen TV, arrangement of a chair and sofa (see diagram) toward TV, TV dinner trays in living room | Meals accompany TV viewing TV viewing is a popular form of recreation for a usual maximum of four seated people (3, sofa, 1, chair) |
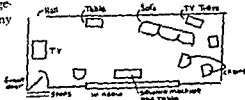
Details	Suggesting the Following Hypotheses
6 Multicolored doilies and lemon drops placed together	Only form of decoration in room is placed with food, suggesting interest in food
7 One chair placed before the other, out of usual conversational grouping	Possibly easier seating for head of the house, perhaps a disabled or poorly sighted person
8 Expensive hat in cheaply furnished home	Male visitors hat husband's hat—who might have to dress expensively for a job with well-dressed people
9 Sewing machine in room uncluttered room	Woman of house sews frequently; feminine member of house values neatness

Interpretation

Neatness that would require hard labor is nonexistent in this home; for example, floors unwaxed, walls dirty, lawn chairs overturned, crabgrass lawn that is uncut. Certain aspects of esthetics usually observed were ignored soiled walls, lack of decoration, dirty picture windows, nonesthetic arrangement of furniture. The only esthetic part of the room were the doilies. Details from the above subconclusions further suggest

1 This family ignores the esthetic for the pragmatic.

2 This family aspires somewhat to middle-class values in neatness (uncluttered room) and dressing well for the job (provided the hat is the husband's)

3 The lack of esthetics along with an emphasis on the pragmatic suggests that probably the feminine member or wife might have some physical disability or perceptual difficulty

4 The family, as seen by the size of the house and amount of money spent on furnishings, appears to belong to the lower-middle-class socioeconomic bracket.

Support for the preceding interpretation was accomplished through interviews, with the following findings largely reflecting the perceived environment of the residents of this house

1 Mr A is unable to push a lawnmower or work in a garden easily. He also works at night, sleeps by day, and cannot devote much time to the yard

2 Mr A. is paralyzed from the waist down, walks on crutches, using a swing-through gait and leg length braces. Therefore, he cannot use rugs on the floor and maintain maximum stability and mobility

3 Mrs A. is blind and walks into the wall when seeking the entrance to the hallway—hence the concentration of soil on that corner of the wall

4 Mrs A has been blind since birth and therefore fails to show the same

amount of attention as sighted wives to the front yard pictures sweeping up of floor dust or window washing

5 The family often eats and watches TV at dinner time

6 Mrs A enjoys candy and is slightly overweight It is interesting to note that the candy dish which she frequents is decorated by lacy doilies—items that by touch are esthetic to her

7 The furniture is arranged for convenience Mr A sits in the forward chair because it is easier for him to approach with crutches and he can better view the TV (Last year he had his cataracts taken out and can see best at that distance)

8 Mr A works a night shift as a receptionist at an exclusive country club hence he dresses well for his job

9 Mrs A sews her own clothes provided someone cuts the pattern for her

10 Mrs A feels most comfortable when every item is in its customary place thus the room is tidy and her memory does not fail her often

Thus it can be seen that life-space descriptions of the more permanent aspects of both the objective and the perceived environment are obtainable and lend themselves to analysis of various patterns of living They reveal and lend themselves to analysis of various patterns of living They reveal features of the world that serve both to stimulate and to coerce activity

Action Research   A third relevant field theory concept is *action research* This process has already been mentioned in Chapter 1 (see p 19) It refers to the conduct of research by practitioners to determine how well some plan of institutional action is working It differs from other types of naturalistic research in an ongoing institutional setting with numerous uncontrolled variables and is distinguished (1) by institutional practitioners becoming extensively involved in research roles as well as in their regular service roles and (2) by the action program being based in part on and perhaps modified in the course of the study by research data By not allowing research goals to become subservient to service goals and by utilizing sufficient research personnel to protect the practitioners from overinvolvement in the research side of such investigations solid institutional analysis can be accomplished by following the experimental method in general quality action research pattern Just as with the experimental method in general quality action research calls for a careful specification of the experimental program and the gathering of both base-line and follow up data Hawthorne effects likewise must be guarded against in both kinds of studies Hawthorne effects are those changes in a research subjects behavior brought on by the extra attention he receives as a participant in a special study rather than by the special qualities of the experimental program They are usually taken into account by providing control groups with equal attention

Teachers are constantly trying out new ideas, just as any conscientious practitioner does New equipment, materials, courses of study, grouping patterns, and other procedural patterns are frequently introduced into schools and other institutions in this rapidly changing age Even in schools with moderately staid patterns and well-established traditions, individual decisions must always be made about how to handle particular persons in particular situations Action research merely provides a model for evaluating the effectiveness of these decisions, whether they introduce new ideas or merely implement accepted techniques

Action research begins in the planning stage with a thoughtful statement of the problem For example, one particular upper elementary grade teacher was disturbed by the fact that whenever she allowed her pupils much freedom to direct their own activities and work on their own, too much confusion and noise seemed to result Intellectually, she accepted the idea that optimal pupil development called for more permissive activity than she felt comfortable in allowing In analyzing her problem, she began with the question, How can youngsters manage themselves in a classroom with as little structure from the teacher as possible?' Before this could be answered, it was apparent that the problem required specific definition This depended on resolution of "What specific management expectances are to be focused on in this study? By reflecting on which activities of the children bothered her most when she relaxed control, she decided that the underlying causes of the problem were (1) increased interference of some children with other children's activities (2) work not being finished on schedule, (3) time wasted in nonessential activity Thus, correction of these three behavioral patterns resulting from a permissive classroom structure became the action goal of the study Recognizing the need to delimit the study, the teacher omitted from inclusion in this particular study such annoyances as activity and noise increase, greater teacher tension, frequent leaving of seats to sharpen pencils and get drinks, and a great amount of talking

Having particularized the action goal, she proceeded to examine the effect on the problem of pupil perception of and readiness for her expectancies In what way did permissive activity motivate the youngsters to bother other children and to neglect completion of work on time? What past experiences had prepared them for meeting such expectancies?

The statement and delimitation of problem led next to determination of the kind and extent of information to be gathered This meant taking some base-line measurements of the number of children with assignments undone, the amount of time spent in other ways than on schoolwork, and the amount of disturbance some pupils created for others who were working during periods when the teacher was out of the room or otherwise involved It meant also interviewing previous teachers with regard to expectancies

and practices in this area (Conversation leads "Jim's causing me trouble how did you handle him?" How did Mary behave last year when you left her alone?) An anonymous reaction sheet was passed out to the class with the request that students write out their thoughts about classroom rules—which ones seemed fair and necessary and which ones did not

On the basis of information gathered and analyzed from these and other data gathering instruments various teaching activities were designed to stimulate the pupils to think about their classroom behavior in relation to its effect on others and their work accomplishments Open discussions were held of rules and class management routines role-playing scenes were inaugurated with the teacher absent and class monitors were elected These activities seemed especially promising in light of what had been discovered about the class

The final step in action research includes testing the effectiveness of the action program by obtaining post treatment data comparing them with base-line data drawing conclusions about the effectiveness of the program and perhaps structuring follow up studies To the extent that all steps are taken carefully and valid data obtained systematically action research can provide solid institutional analysis and improved practice simultaneously Several good references on this topic furnish helpful guides to the beginning action researcher (Shumsky 1958 Taba and Elkins 1950)

Self Theory

Over the past decade no psychological construct has captured the imagination of American educators more than the self concept What a child thinks of himself in general and in specific ways represents in the minds of educators as well as of many behavioral scientists the keystone of his personality makeup and the essence of his motivational dynamics The late-maturing child is still unlikely to learn to read even after he has matured to the point where he is organically and experientially is ready because he has already come to see himself as a nonreader The culturally deprived child likewise may see himself as a good fighter and doer but not as much of a talker His self-esteem at school is likely to be lower than that of his middle-class counterpart The vacillating inconsistencies of adolescent behavior are little more than the teen-agers search for identity Delinquent youths have come to relish an image of themselves as troublemakers and they behave accordingly All these and many other such observations fill the pedagogical literature with the notion that Johnny learns and behaves as he does to a great extent because of the ideas he holds about himself

Self-concept theory goes back as far as George Mead and before him William James but has come into prominence only over the past three decades

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The final step in action research includes testing the effectiveness of the action program by obtaining post treatment data comparing them with baseline data drawing conclusions about the effectiveness of the program and perhaps structuring follow up studies To the extent that all steps are taken carefully and valid data obtained systematically action research can provide solid institutional analysis and improved practice simultaneously Several good references on this topic furnish helpful guides to the beginning action researcher (Shumsky 1958 Taba and Elkins 1950)

Self Theory

Over the past decade no psychological construct has captured the imagination of American educators more than the self concept What a child thinks of himself in general and in specific ways represents in the minds of educators as well as of many behavioral scientists the keystone of his personality makeup and the essence of his motivational dynamics The late-maturing child is still unlikely to learn to read even after he has matured to the point where he organically and experientially is ready because he has already come to see himself as a nonreader The culturally deprived child likewise may see himself as a good fighter and doer but not as much of a talker His self-esteem at school is likely to be lower than that of his middle-class counterpart The vacillating inconsistencies of adolescent behavior are little more than the teen-agers search for identity Delinquent youths have come to relish an image of themselves as troublemakers and they behave accordingly All these and many other such observations fill the pedagogical literature with the notion that Johnny learns and behaves as he does to a great extent because of the ideas he holds about himself

Self-concept theory goes back as far as George Mead and before him William James but has come into prominence only over the past three decades

through the writings of Lecky, Rogers Moustakas, Combs and Snygg, among
others Lecky (1945) describes the core of personality as a constellation of
attitudes, the most important of which are the attitudes of self regard Be-
havior is thought to be consistent with one or more of these attitudes, and
the preservation of the constellation is its major purpose Changed behavior
is accomplished most effectively, Lecky thinks, by bringing into conflict two
or more self-attitudes so that a shift within the attitude complex is forth
coming

Rogers (1961) highlights both the actual ideal-self congruency and the
self-esteem dimensions He points out that as people achieve improved
mental health, their self pictures become more positive and more in line
with their reflections about the kind of person they would like to be He
also indicates that persons become more self-accepting and more fully func-
tioning primarily by being thoroughly accepted and trusted rather than being
closely supervised and directed

Combs and Snygg (1959) stress the idea that the major sources of all
behavior are self maintenance and self-enhancement One emphasizes de-
fense processes that operate when a person is frustrated or threatened The
other stresses response to challenging, interesting situations that the person
himself feels generally capable of tackling Moustakas has written several
books based on this concept, one of which demonstrates quite well how
teachers can gather and utilize self materials of children within the school
classroom (1956)

Despite the extensive theoretical use of the self concept, supportive re-
search evidence is not so readily apparent in the literature as one might hope
One early review (Brandt, 1954) of empirical studies of the self concept
indicated considerable individual differences existing in each of the follow
ing dimensions (1) nature of specific content, (2) stability, (3) inner con
sistency, (4) affective quality (positive-negative), and (5) reality A later,
more comprehensive review (Wylie, 1961) of a much larger number of
studies produced many conflicting findings and little real evidence that the
self concept is particularly helpful in explaining achievement One of the
problems with research in this area, of course, is the superficiality of much
instrumentation What one is willing to reveal about oneself on a question
naire, a rating form or even an interview is, among other things, a function
of how trusting one is of the persons requesting the information how so-
cially acceptable is the content, and how accepting of oneself one really is
The extent to which all these factors are operating for each respondent during
the administration of such instruments is not likely to be known Even more
sophisticated instruments used by self theorists, such as Q-sorts, projective
tests, and autobiographical writings are somewhat influenced by the same
factors, which tend to keep the reported self concept from representing one's
real feelings about oneself

Especially because of the distortion between reported and true feelings about self, observation should be used much more extensively in self-studies than it has generally been used in past research. Self theory is especially applicable to loosely structured situations that present a wide array of behavioral alternatives the playground during recess lunchtime or after school the hallway during the passing of classes the YMCA gymnasium before or after scheduled activities the shop or office during coffee break or lunch hour, and the casual conversations that occur in most any situation (Tyler, 1959) The true self is more often revealed in off-the-cuff unguarded, unplanned remarks than when a person is quizzed directly about himself, when his defenses are aroused In brief the self is more likely to be revealed when behavioral possibilities are numerous both because singularly dominant or directive stimuli are absent and because the psychological climate is minimally threatening It is at these times that keeping regular records of what persons choose to do and say is most worthwhile for uncovering the real self Either as adjuncts of more formal instruments or as tools by them selves such records prove especially helpful in utilizing self theory With them, it is possible to reconstruct many though never all of the currently operative percepts of self which together make up the total constellation that Lecky discusses

In Chapter 6 a diagram is shown of the self-structure of an eighth grade boy, as it has been interpreted from an analysis of the recurring patterns of his behavior throughout a school year from scrutiny of various spontaneously uttered self remarks and content analysis of an autobiography Although the self is a highly differentiated structure it must be remembered that changes are always taking place as new experiences bring with them new and differing self percepts Self maintenance processes through the defense mechanisms tend to preserve the structure in the face of threats whereas self-enhancement processes tend to expand and elaborate it still further

Constructs from this theory are being used increasingly to guide institutional practice of all kinds What is needed more extensively in the future than has been available in the past are those observational data that reflect the self in operation Naturalistic observation has an especially critical role to play in the future testing of self theory

The self concept, along with other theories discussed in this chapter, offer numerous possibilities for shaping naturalistic observation in whatever directions one wishes to take in applied behavioral research Once problems are clearly defined and the questions one wishes to answer are determined theoretical models can be chosen and rationales developed so that the kinds of data needed and procedures for obtaining them become obvious Data gathering procedures represent the next topic to be discussed

Measurement
Through Observational
Procedures

In naturalistic research, nothing deserves more thought and attention than the type of information to be sought. Obviously, conclusions to be drawn can be only as valid as the data on which they are based

Although the possibilities of what to record are virtually endless, observational data are of three general types (1) narrative, (2) checklist, and (3) rating In particular research one or another of these (or perhaps a combination of types) might be utilized, depending on the purposes of the investigation Each type has particular strengths and limitations.

The *narrative* type includes all data that merely reproduce behavioral events in much the same fashion and sequence as in their original occurrence. Decades ago most narrative data were mere verbal descriptions, play by play accounts, of what transpired in a given set of events. Stenographic recording in the courtroom represents perhaps the best of these early types.

More recently, the tape recorder and television camera make possible the collection of still better-quality, more complete narrative data

Perhaps the most distinguishing feature of most forms of narrative data is the relative lack of interpretative content In Willems terminology (1969), there is minimal imposition of response units by the investigator while collecting such data Theoretically, narrative data are exact reproductions of behavior In actuality not everything that happens can be recorded, nor can all potentially relevant situational details be cited Narrative data do preserve, however, much of the ongoing nature of behavior and the same sequence of events They represent attempts to freeze behavior so that it can be studied and analyzed in a more leisurely fashion than the swift panorama of ongoing events themselves usually permit

A second kind of observational data takes the form of *checklist* notations Checklist data are limited in scope to those specific aspects of behaviors or situations on which observers can readily agree for example, the person being observed is male or female child or adult alone or with someone Whereas good narrative data gathering calls for minimal observer structuring by the observer, the checklist represents maximal observer structuring Items to notice in a behavioral situation are clearly established ahead of time They are selected and defined so as to be classifiable as quickly as they are observed with a high degree of objectivity Although the checklist has long been used for noting static qualities like sex, race, and family membership, it has recently found service in recording action and interaction (Medley and Mitzel, 1963, p 253)

> Typically, behaviors are recorded in the form of tallies, checks, or other marks which code them into predefined categories and yield information about which behaviors occurred or how often they occurred, during the period of observation

As will be shown later in this chapter, many aspects of ongoing behavior can be coded in checklist fashion and the full possibilities of such data in naturalistic research have yet to be realized

With both types of data mentioned above observer evaluation is minimal With narrative data the recorder merely tries to describe Interpretation comes later With checklist data he limits his observations to those features over which there is little debate Other observers, even without highly specialized training would classify similarly

In contrast to both kinds of data already mentioned the third type specifically calls for observer interpretation Information recorded represents the observer's judgment of what behavior signifies. Most generally this type of data is referred to as a *rating* although it may also take the specific form of a *ranking* or *nomination*

Much of this chapter will be devoted to describing these three types of

In an important study of the intellectual development of young children Wann, Dorn, and Liddle (1962) collected considerable anecdotal material Through such anecdotes as the following, they discovered that children's concepts about friendship and many other constructs are both well established by kindergarten age and are often quite different from those of adults (Wann et al, 1962, p 68)

> Juice and crackers had been served and Jim was heard to say to Jack, I'll give you my cracker if you will be my friend' Jack agreed and the cracker was passed to him Then Jim said again, 'You give me a cracker and I'll be your friend' Whereupon Jack passed his cracker over to Jim and a mutual friendship was established and each ate the other's cracker

Although there is no set pattern for anecdotal writing and various styles are permissible, adherence to certain procedures tends to improve its scientific quality

1 Write an anecdote as soon after viewing the incident as possible If some time lag is necessitated by the situation, jot down a key word or two (a particular term used, for example) to aid your memory during the more complete writing

2 Include the basic action or statements of the chief person in the episode, that is, what he did or said

3 Include enough setting details to indicate where and when the behavior occurred under what conditions, and who was involved The date, time of day, specific names, and a general statement of what was going on (example "during silent reading period", "while the class was discussing plans for the trip to Gettysburg" or what was supposed to be going on (example 'Jim's group was supposed to be studying quietly for their spelling test")

4 Responses or reactions of others to the chief person's behavior should also be included (example "Jim nodded affirmatively", "I don't think so", Tom replied) Even no response when one might well be expected should be recorded (example see Navarra's anecdote 15R3290 above "Nothing else was said at the time")

5 Use direct quotations wherever possible in order to preserve the flavor of how things were stated If too much was said to recall it all accurately, write the major points of the conversation in indirect quotation form and identify key phrases that can be remembered accurately, setting them off with quotation marks

6 Generally, anecdotes should preserve the sequence of actions and responses of the original behavior incident. In other words, there is a *beginning*, including some setting details as indicated in item 3 above, a *middle*, which describes what happened in proper sequence and an *end*, which describes briefly but noninterpretively how the incident ended (example

"The topic changed" "John smiled and turned away") Navarra could have improved his anecdote number 4B576 above by indicating how the episode closed (example Mother didn't reply before L B skipped off ")

7 Anecdotes should describe the major units of molar behavior (example *Bill went to the grocery store with his mother*") in an episode with sufficient subordinate molar units (example *Bill ran out of the house* as his mother was warming the car up *slamming the door* behind him and *rode off* to the grocery with his mother) and molecular activity (example panting and waving his arms) included to indicate something about how the main action was carried out There is always a practical limit to how much subordinate molar and molecular detail can be recorded. The particular selection of such material to record should depend, of course, on the overall purposes of the study

8 Anecdotes should be objective, accurate and complete as far as important details are concerned Recording errors should tend to be of commission, which can be disregarded in the analysis rather than omission which can never be corrected Good literary style correct grammar and spelling, and even complete sentences are inconsequential Words chosen should be precise and unambiguous nouns and verbs primarily Subjective terminology, exemplified by most adjectives and adverbs should be used sparingly If it is important to note the "*beautiful* car John was driving describe more precisely, instead some of the qualities that make you think so (example "a two-toned blue hardtop Pontiac Catalina two-door 1972 model freshly washed and without a scratch)

9 If research resources are sufficient use of a tape recorder and typist to transcribe anecdotes into written form generally increases the amount of detail that can be included over simple stenographic or handwritten recording Some researchers have utilized interrogators to listen to or read anecdotes and then to ask questions of the observer regarding other details of the incidents. One promising sequence of observation and recording procedures would be as follows

1 Make a long hand or stenographic write-up of an incident immediately after it happens

2. As soon afterwards as possible and certainly on the same day, have an interrogator read this write up and ask questions of the observer

3 Have the observer describe the incident in final form into a dictaphone

4 Type this final description for permanent record purposes

With the safeguards taken above, anecdotal descriptions of ongoing events can be most useful scientific tools In addition to the research studies referred to already, such descriptions have been extensively used by Hughes (1959) in examining classroom teaching practices Barker and Wright

(1954) in analyzing community influences on development, Raush, Dittmann and Taylor (1959) in assessing change in interpersonal behavior of hyperaggressive children undergoing residential treatment, and by many other investigators engaged in significant behavioral research. Analysis of an anecdotal case study will be presented in Chapter 6 to illustrate further the quality of such data and some of the processes involved in their interpretation.

Specimen Records

A sharp distinction is sometimes made between anecdotal and specimen records (Wright 1967). While differences do exist, they are primarily in purpose and coverage rather than in the quality of material. Both represent attempts to describe behavior in context objectively and sufficiently comprehensively as to provide a permanent record of specific actions and events. Both maintain the sequence of activity in its original order.

If the suggestions made in the preceding section are followed for writing good-quality anecdotes, the most basic distinction lies in the behavior included and the time interval between observations. In specimen records, behavior is described continuously over relatively brief time intervals (say, an hour), whereas in anecdotal records only certain episodes of behavior are selected from many more available over a much longer period.

For specimen description a person is usually chosen, along with a time and particular place for observing him, to fit whatever purposes one might have. From this point on, the observation and recording are continuous and deliberately atheoretical and unselective. A faithful record is made of "everything that happens in the behavior and situation of the child (Wright, 1967, pp 83–84). Whatever he does and says is noted as well as whatever is done or said to him in turn. In the following example offered by Barker and Wright (1951, pp 392–393), immediate inferences of the observer are italicized to set them apart from objective material.

> Suddenly Raymond ran *eagerly* to another tree
> He started climbing the tree with great energy
> He remarked *in an offhand way*, but with slight emphasis on the second word, I hope I can climb this tree." *He seemed to say this to himself as a form of encouragement*
> In a high pitched soft singsong he said I hope I hope I hope."
> Raymond continued climbing the tree *cautiously* grasping one branch and then another, and fixing his feet firmly
> He called out to Stewart in a *playfully boastful manner*, Stewart this tree is harder to climb than the other one
> Stewart called back *very firmly and definitely*, No, it isn't"

When Raymond was as high as *it seemed safe to climb,* he settled in a crotch of the tree with his hands gripped tightly around the branches Exuberantly he sang out, "Owww, owww, whee Do you see me?'

The inference notations represent on-the-spot judgments and attempts to record the probable intentions of the child and those with whom he inter acts Without some inferential notations, specimen description could be more accurate perhaps but of less overall value as a record of human action (Wright, 1967, pp 40–41) It is likely that separate observers can agree quite closely on inferential notations if they record concurrently with the observation and attempt no substantial theoretical interpretations Such phrases as "showing evident surprise," "in an authoritative tone," and "with agitation" add considerably to the meaning and economy of recording with out destroying its overall accuracy (Wright, 1967, pp 40–41)

Because action is recorded continuously, specimen records covering more than a few minutes of behavior are usually quite lengthy Barker and Wright (1951) found for example, that it took 420 printed pages merely to recount without interpretation the happenings to a boy in a single day, from 7 00 A M to 8 33 P M

In the analysis of such records, the behavior stream is usually first divided into its natural segments by deciding where one behavioral episode stops and another begins This is a rather complicated process as larger activities often overlap small activities The excerpt below illustrates these overlapping segments (Wright, 1967, p 61)

Margaret came out of the bedroom and into the dining room prepared to go to the bathroom

She finally noticed me (The observer was sitting in the dining room near the door to Margaret s room)

She opened her mouth in surprise

She really seemed surprised to find me there

She almost stopped but didn t, and walked on to the bathroom

8 14   The mother followed her and asked, 'About through honey?

I thought I had better not go into the bathroom at this point

There were sounds of splashing water as the mother helped

8 16   Margaret came out of the bathroom, through the kitchen, and into the dining room

As she stood there, she pulled on her housecoat that her mother had left on a chair for her

Getting Dressed

Going to Bathroom

Noting Observer

One of the distinctions between anecdotal and specimen descriptions has to do with this division of the behavior stream Instead of dividing the

behavior stream after the data have been recorded in the continuous man-
ner noted above, the writer of anecdotes selects events that have initial and
termination points and builds the structure of his anecdote around them. He
can do this only by recording after the total event, rather than while it is
still happening. The matter of episode selection in anecdotal writing often
becomes the critical factor in determining its scientific value. If some system
has been used, such as recording at preselected moments in time or when
particular situational or contextual conditions prevail (for example, during
recess periods or whenever a child takes his turn reading to classmates),
anecdotal records can approach specimen descriptions in scientific quality.

The differences in time coverage of these two types of narrative data lead
to a final distinction in the use that is often made of them. Specimen records
are excellent vehicles for discovering behavioral patterns in existence in a
wide variety of situations and for examining particular behavioral com-
ponents of larger patterns. They are less useful, perhaps, in assessing long
term change in individual persons. Anecdotal records, on the other hand,
can be quite useful in identifying change in individuals over rather substan-
tial time periods if similar types of episodes are included which take place
days, weeks, months, or even years apart.

Field Notes

Many anthropologists, psychiatrists, and other behavioral scien-
tists take detailed notes on events they observe. These notes are often
similar to anecdotes in preserving the sequence of action and interaction.
They differ, however, by including both interpretation and specialized
jargon. There is less stress placed on providing a complete, objective descrip-
tion of each event and more on describing and interpreting certain features
that seem central to the interests of the observer. These field notes, further
more, are often generalizations based on several discrete though related
observations rather than separate descriptions of each. The anthropologist,
for example, in visiting a primitive people, is likely to jot down "Babies are
picked up and fondled by the nearest adult, regardless of family relation
ship, whenever they start to cry."

In watching young French children playing in a park, Wolfenstein (1955,
pp. 100–101) reported

There seems to be a continual mild anxiety that possessions will get
mixed up in the park. Mothers are constantly checking on the whereabouts
of their children's toys and returning toys to other mothers. One woman
hands a toy shovel to another, saying, "C'est a vous, madame?" Toys seem to
be regarded as the possessions of the parents, and mislaid ones are usually
restored to them. While parents are concerned to keep track of their own

child's toys, they seem particularly upset if their child has picked up something belonging to another and are apt to slap the child for it This happens regardless of whether there has been any dispute and where the owner may be quite unaware that another child has picked up something of his

Then, shifting to straight anecdotal reporting, Wolfenstein (1955, p 101) describes three incidents that support the above generalizations

> A girl of about two is holding a celluloid fish belonging to a boy of about the same age Though the boy makes no protest, the attendant of the girl scoldingly tells her to give it to him, pushes her forward, and after the girl has handed the fish to the boy, hustles her back to her own bench
>
> A girl of about two has picked up a leather strap from a neighboring group Her nurse reproves her, takes her by the hand, and returns the strap A little later a boy of about the same age, belonging to this neighboring family, plays with the little girl, picks up her pail, and keeps it while the little girl is fed by her nurse The boy's grandmother becomes aware that he has the pail, hits him on the buttocks, scolds, and, taking him by the hand, returns the pail to the girl's nurse In front of the nurse she repeatedly hits the boy about the head and ears

Following these anecdotes are additional generalizations about the emphasis of the French culture on property ownership, including a final Freudian interpretation (Wolfenstein, 1955, pp 101–102)

> The child's easy way of picking up others' things may evoke in adults impulses to take which they strive to repress in themselves and which they therefore cannot tolerate in the child

Field notes often provide clues to important personal and social dynamics that operate in ordinary life so subtly as to go unrecognized The scientist, who is specially trained to recognize these dynamics, is prone to watch for their presence, and when he believes he sees it, to make notes accordingly, as Wolfenstein has done Once he thinks he recognizes a particular pattern to his general observations, he is likely to notice and perhaps record anecdotally (as Wolfenstein has also done) the particular incidents that fit his interpretations His insights about what he sees as he observes child rearing practices in a particular culture, delinquency patterns among urban adolescents, or some other equally large-scale behavioral phenomena become both the basis of his data and frequently the data themselves Once his perceptions have been shaped, he is less likely than before to return to primary observational data and to reshape his generalizations

The flaw in these tendencies is that each observer, no matter how highly trained, has his own biases, which prevent him from seeing all that is going on Even another observer with similar training and orientation is unlikely

to agree completely on what dynamics operate in a given situation Witness the frequent disagreement among psychiatrists as to the sanity of a particular individual Differences among anthropologists are also not infrequent, with one referring to a given culture as overly harsh in its mother-child relationships and another saying the mother-child interaction in the same culture is serene and docile

The basic problem in utilizing field notes too extensively in behavioral research is this highly personalistic quality It is seldom possible to return to the original observational data for reinterpretation because so little of these data are recorded Wolfenstein's published reports of her observations in French parks include many more straightforward, objective, anecdotal accounts of incidents than do most studies Yet even with her account one cannot help wondering just how isolated are the three incidents she reports of French children receiving rebuff for handling other children's toys There is no way for the reader to recheck the validity of her conclusions except to visit a French park also

Despite the fact that field notes of psychoanalysts social workers, anthropologists and many other highly trained behavioral specialists must remain suspect for the reasons indicated their general usefulness in the advancement of science can scarcely be questioned How would Darwin's theories[1] have been accepted without his field notes and drawings or Freud's without the cases he cited? The notes of a trained observer can provide the best record of a scientist's evolving ideas about the field he is studying and if he is truly an expert much of what he notes will be true Field notes usually represent a broader coverage of problems of everyday living than those of the laboratory technician It is true of course, that insights spelled out in anthropological notes have to be checked via other methods but they often advance scientific exploration into areas that otherwise would not be touched

Ecological Descriptions

Not only behavior but also the influencing environment must be observed The setting and conditions in which behavior and development occur establish limits and expectancies for their control and direction

Objectively written detailed descriptions of home school neighborhood

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[1] Darwin was making observations with certain hypotheses in mind and he deliberately devoted twice as much space in his notebooks to instances that tended to disprove his hypotheses as to ones that tended to prove them He was conscious of the selectivity of observation and tried to correct for personal bias in this fashion

and community at large can serve as valid information sources regarding important environmental factors[2] Much can be surmised about the inhabitants themselves by close inspection of a fully specific and complete description of a home that has been visited which includes such information as the following

1 Balled up tissues in the false fireplace

2 Straw coming out of the seat of one of the two rocking chairs in the living room only other furniture in the approximately 10 X 12 living room was an old oak Victorian style sofa that squeaked loudly when sat on and a large-screen Sylvania color television set and stand

3 Only half the floor was covered and this by a small faded oriental rug almost worn through in two places frayed on the sides

4 Both curtains had several holes and smudges

5 A deck of cards several bent and twisted spread out on the formica top table in the kitchen in solitaire fashion a bowl of cereal mostly eaten and a dirty coffee cup

6 Steam was coming from an open pot on the three burner gas stove along with a strong cabbage smell but there was no fan or ventilator to take away the odor

7 Sink piled high with dirty dishes a couple of milk cartons jars etc

8 Only reading material in living room or kitchen was a *single copy of a week-old New York News* a year-old *Ebony* magazine and a worn but tablesize Bible

9 In the large wastebasket near the stove overflowing with paper and trash were two empty bottles of Petri wine

10 On the floor beside the sofa a used tuna fish can almost full of cigar and cigarette ashes

11 Plaster chipped off ceiling in three places and soot or oil stains on ceiling above Heatrola space heater which was burning smoothly walls cracked in several places No pictures anywhere

12 A full-size mattress was leaning against the opposite wall of living room with a thin cotton blanket draped over it

Such data are too limited by themselves to permit definite conclusions regarding the occupants Their income level social class and value systems can be only hypothesized from these fragments of ecological material

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[a] The section that follows describes the microecology of the home environment. For more extensive procedure for analyzing the ecological structure of an institution or a community the reader might consider Barker's *behavior setting survey technique* (Barker 1968 Barker and Gump 1964)

Similar information about the other rooms in the house, its exterior, and the neighborhood would be equally revealing, for example, whether or not the grass is cut or even if there is grass nearby, whether or not paint is chipping, what equipment if any is in the yard The physical environment in which people live both shapes them and is shaped by them Its detailed description can be a source of solid data for determining what people are like and why they are this way

In general, the same suggestions follow in making an ecological write up as in anecdotal reporting Objective, comprehensive itemizing of what the environment comprises is most important, rather than attempting any on the-spot interpretation Just as with anecdotal reporting, writing will often have to be done after a visit rather than during it Adequate time should be scheduled for this write up immediately after the visit and before some other event can cloud the memory In order to achieve coverage, some system should be followed, both in observing and later in writing up the description In the foregoing observation, the observer particularly noticed furnishings one by one in each room, condition of walls, floor, and ceiling literature, objects, and other materials in evidence around the room Thinking ahead of time about items to look for will generally improve the quality of the observation and recording An example of a well-done ecological description was presented in Chapter 3 (pp 72–73)

In addition to outsiders' descriptions of the physical environment in which people live, it is important to obtain descriptions by the people themselves of their own habitat An alley junk heap may be reported by the outsider as only 'a big pile of trash,' whereas a ten year-old boy, in writing a paper on what he does after school, may devote the entire paper to things he does in this junk heap He has a club house there, he finds in it many objects to fix up, and truly it represents the best playground he knows To depend solely on outsiders' reports of environmental factors is to miss understanding per haps the most important motivations of all, that is, one's perceptions For this reason, studies of the environment often include both kinds of data (1) objective ecological descriptions and (2) life-space reports by participants

Insider reports can be obtained in school through various autobiographical assignments, where children describe their environment along with what has happened to them at work, where children draw and, if encouraged, then describe their home, school, and neighborhood and through interview ing and listening to what they say informally about their world As a part of overall therapeutic programs for disturbed children, Newman and Keith (1967) deliberately attempt on the-spot life-space interviewing to obtain and alter children's pictures of events that they face and which provoke confusion and anxiety Ecological data can be recorded and analyzed in the same manner as other narrative types of data

Other Types of Narrative Data

Alluded to in the discussion of "insider" life-space data, themes, letters, diaries, and other writings represent important sources of the narrative type of data. Spontaneously delivered oral reports, open-ended interview responses, and informal discussions provide a similar kind of information if taken down stenographically or by a tape recorder. They are classified here as narrative data because one attempts to transcribe them accurately, sequentially, and without interpretation. The order and manner of projective expression is often more important than what is actually said, so it is necessary to reproduce statements in their original form.

Obviously, these data differ from the straight anecdotal reporting, as described earlier, in that they usually include subjective as well as objective material. A father's letters to his son, for example, typically contain both narration of what he has been doing and opinion concerning these and other happenings. The selection and structuring of such material is a projective expression of its author, and inferences can be made from it about underlying attitudes and other personality dimensions.

Once projective materials have been accurately reproduced in somewhat permanent form, they lend themselves to the same kind of analysis as do other forms of narrative data. They are particularly useful in attempting to compare behavior patterns with expressed attitudes and beliefs. McClelland et al (1953) scored stories made up while describing certain semistructured pictures for the frequency of achievement indicators. One of the more distinguishing psychological differences reported in the Bank Street study (Minuchin et al, 1969, pp. 302–307) between children in "traditional" and "progressive" schools was the considerably greater expressed self-differentiation in letters that those in the progressive school wrote to children overseas. Grammatical errors, length of sentences, vocabulary structure, and many other items can be singled out for analysis along with various psychological variables, once projective material is in transcript form. Both overt and covert psychological data, therefore, may be recorded in narrative form.

It goes almost without saying that as recording technology has improved, both the complexity and type of raw observational data have been expanded. Eliminating the laborious step of transforming taped material into typed form before rating, judges sometimes perform their ratings directly from tapes. As sound movie cameras and closed-circuit television cameras become prevalent in more and more institutional settings, the possibilities are greater for using movies and pictures as the raw data for behavioral research. Just as the typed transcript can be read and reread, they can be replayed over and over again for reliability purposes. They

probably provide better and more accurate measures of what happened in a given situation than does most any anecdotal record

With expanding technology, the type of raw observational data to be recorded will be limited primarily by man's imagination Imaginative use of photography is evident, for example, in Kerlinan's (1964) utilization of time-lapse photography to take pictures automatically of school classes at minute intervals throughout a school day Measures are later drawn from analysis of the various pictures, such as the proportion of children interacting with other children engaging in some activity, or exhibiting positive affect By utilizing modern technology, it is possible to gather massive amounts of data and to sample events extensively, thus overcoming two of the short comings of much naturalistic research the effort involved in making and transcribing good narrative records of even a small behavior episode, and the modest number of situations and events that one person can observe and record by traditional means It should be remembered, of course, that even cameras have limited coverage and may not record all relevant variables in a given situation

CHECKLIST DATA

Whenever the existence or nonexistence of specific objects, con ditions, or events needs to be recorded systematically and consistently, the checklist is a promising device It has been used for centuries as a means to ensure noticing and recording of specific items in particular situations It serves as a memory aid in helping people gather information they have planned to obtain and to do all they earlier had intended doing The house-wife's shopping list is a simple form of checklist The countdown before space-ship launching is another familiar example

Static Descriptors

A static descriptor is a set of descriptive items pertaining to highly stable characteristics of research subjects or settings that are to be checked or filled out, thus ensuring systematic notation of the data In behavioral research, such checklists have long been used for obtaining supplementary and routine information about the subjects and the setting Age, sex, race, educational background, occupation home ownership and family member ship are some of the more common items of information routinely gathered about research subjects. Weather conditions time of day, location, people involved, and other such matters regarding the setting are also itemized for easy checking

covered that the youngsters played much more extensively with other chil
dren's toys than with their own, merely by knowing who owned each of
the toys and checking off each instance of a child's toy playing (Regan, 1966)

Situations in which behavioral alternatives would lend themselves to
checklist tallying are infinite in type and number The listing below illus
trates a few of the possibilities that come to mind

Behavior Category	Alternatives
Contributes to Salvation Army bucket	Passerby contributes _____, doesn't _____
Drinks at lunch	Coffee _____, tea _____, milk _____, other _____
Uses seat belt	Yes _____, no _____
Uses magazine stand	Browses only _____, browses, then buys _____, buys only _____
Bites nails, puts pencils or other objects in mouth	Yes _____, no _____
Participates during school activities period	Joins a club _____, attends study hall _____
Participates in class recitation	Volunteers _____, when called on _____, not at all _____
Passes time while waiting for bus	By reading _____, talking _____, watching _____, dozing _____
Crosses street	With light _____, against light _____, policeman present _____, policeman absent _____

Checklists of behavioral alternatives are often filled out by merely tally
ing each occurrence as it is observed from some inconspicuous vantage
point For many studies, only the frequencies of the various behavior choices
are desired while for other studies, some simple identifying features of the
persons behaving are required, such as sex or age Depending on the num
ber of behaviors to be watched, the complexity of the observed situation,
and the momentary duration of the behaviors themselves, it may be best
not to overcomplicate the observer's task with too many other variables One
can always observe male passersby to the Salvation Army bucket for 5
minutes and then shift to female passersby for the next 5 minutes with
new, but identical forms

Occasionally, not just the frequency of behavior occurrence but also the
names of the actual persons doing particular things is important. For exam
ple a teacher's aide in one study (Brunner, 1964) kept track of the amount
of talking done by each youngster during class discussion periods by placing
a tally mark beside the appropriate name (on an alphabetically arranged

class roll) each time a pupil talked. A similar record was kept of "role playing" behavior, that is, taking a "special turn" in front of the class demonstrating some special behavior. These records proved useful in lesson planning and assessment of pupil progress.

In using the checklist as described above for determining the frequency of various behaviors the observer usually follows some prearranged time schedule or sequence for making his observations, or else he starts his observations when certain situations come up naturally, for example, at the beginning of a class discussion in nursery school.

Recently, however, successful attempts have been made to follow a sequence of interactions via on-the-spot coding according to checklist dimensions. In the Bank Street study (Minuchin et al, 1969, pp 123-129), class room interactions were coded as they happened along four dimensions who initiated contact (teacher or child) toward whom were child initiated contacts directed (teacher, child or other) manifest affect (friendly, neutral, or hostile), and task-orientation (task oriented, mixed, personal and/or social) Despite the simplicity of this scheme, the investigators found striking differences between the modern and traditional classrooms. In the former, for example, children tended to initiate most of the contacts with teachers, whereas in the latter, such contacts were initiated by teachers and children to approximately the same extent.

Flanders (1960, 1970) and his colleagues have developed a useful procedure for recording ongoing classroom behavior. By limiting the number of categories to ten—seven of which apply to teacher talk, two to pupil talk, and one to silence or confusion—they are able to write the numbers of the ongoing behavior types every 3 seconds during regular classes, with a high degree of reliability. This procedure permits an objective and discriminating record to be made of the pattern of classroom interaction. By writing the numbers in succession, the original behavior sequence is maintained, thus making possible later analysis of the kinds of teaching acts that tend to precede particular student responses. A reasonably accurate accounting is readily ascertained of the proportion of time teachers talk, pupils talk and of the particular kind of talk that occurs.

A typical data sheet would look in part as presented in Figure 4 1 (p 98) which is keyed to the category descriptions given in Figure 4 2 (p 99)

In an interesting use of on-the-spot behavior coding, P S Sears (1963) and her colleagues have resorted to a procedure she calls *point sampling*. Point sampling refers to the process of (1) *looking at an individual just long enough to decide what he is doing* according to some relatively simple behavior category system, (2) *marking an appropriate symbol on a data form*, and (3) *looking at the next person in a group to repeat this process*. Some order should be established ahead of time (example left to right or

Teacher *Adams.*

Situation *Explanation of Arithmetic homework assignment.*

6	6	6	6	5	5	5
5	5	5	10	4	4	10
5	5	5	5	5	4	8
8	8	5	9	9	7	7

FIGURE 4 1   SAMPLE OF PARTIAL DATA SHEET OF INTERACTION RECORDING
TALLIES (MODIFIED FROM FLANDERS)

alphabetical) for guiding the sequence of momentary observations around
a group No attempt is made to keep track of the duration of each act. By
using a duplicated form based on classroom seating charts with the names
of pupils in their appropriate spot on the form, her observers are able to
point-sample the behavior of all pupils in a class in 2 or 3 minutes total
time Thus, in a few days of class observation, more than 200 classifications
can be recorded for each pupil These raw figures are easily converted into
percentages in order to make comparisons among children Comparison of
class responsiveness to different subjects, methods, teachers, or activities is
also readily accomplished merely by computing percentages of pupils
engaged in various acts on different occasions

The point-sampling procedure seems to hold great promise for classroom
and large group participation research because it permits behavioral data to
be obtained on a relatively large number of people in approximately the
same situation (major changes in overall class activity usually do not occur
within the 2- or 3-minute period it takes to point-sample an entire group of
30 people) Large numbers of point samples are readily obtainable for each
group member because each "run" is so brief, making it possible to identify
patterns of behavior among both individuals and settings rather than having
to be overly concerned, as in much anecdotal research, with whether or not
the behavioral data obtained are typical The relatively large volume of
discrete acts that can be amassed and processed under point sampling helps
answer one of the major questions of much naturalistic research, namely,
how often particular types of behavior occur

Although any simple category system can probably be used in point
sampling the system devised by Sears illustrates the need for simplicity so
that coding can be quick and accurate. It includes only the following
categories and descriptions (Sears and Sherman, 1964, p 64)

Task-oriented work (intent on ongoing work as set by teacher)
Social-task-oriented work (any social remark or interchange which is work
    oriented)

Teacher Talk	Response	1 *Accepts feeling* Accepts and clarifies an attitude or the feeling tone of a pupil in a non threatening manner Feelings may be positive or negative Predicting and recalling feelings are included
		2 *Praises or encourages* Praises or encourages pupil action or behavior Jokes that release tension but not at the expense of another individual nodding head or saying "Um hm?" or go on are included
		3 *Accepts or uses ideas of pupils* Clarifying building, or developing ideas suggested by a pupil Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five
		4 *Asks questions* Asking a question about content or procedure, based on teacher ideas with the intent that a pupil will answer
	Initiation	5 *Lecturing* Giving facts or opinions about content or procedures expressing His own ideas giving his own explanation or citing an authority other than a pupil
		6 *Giving directions* Directions, commands, or orders to which a pupil is expected to comply
		7 *Criticizing or justifying authority* Statements intended to change pupil behavior from non acceptable to acceptable pattern bawling some one out stating why the teacher is doing what he is doing *extreme self reference*
Pupil Talk	Response	8 *Pupil talk–response* Talk by pupils in response to teacher Teacher initiates the contact or solicits pupil statement or structures the situation Freedom to express own ideas is limited
	Initiation	9 *Pupil talk–initiation* Talk by pupils which they initiate Expressing own ideas initiating a new topic freedom to develop opinions and a line of thought like asking thoughtful questions, going beyond the existing structure
Silence		10 *Silence or confusion* Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer

FIGURE 4 2 CATEGORY DESCRIPTIONS USED BY FLANDERS IN INTERACTION ANALYSIS (1970, p 34) *

* There is no scale implied by these numbers. Each number is classificatory it designates a particular kind of communication event To write these numbers down during observation is to enumerate not to judge a position on a scale

Social friendly behavior (social remark or interchange unconnected with work)

Intent other task (working but on another task than the one assigned by the teacher at the moment)

Intent nontask (intent on an activity without work orientation, for example, making a paper-clip chain)

Wandering (looks around strolls, or watches others without purpose)

Daydreaming (withdrawn from class activity, solitary, staring into space, apparently not thinking about work)[3]

For action checklists to provide meaningful data in relation to research purposes (1) relevant setting variables need to be specified, (2) behavioral and stimulus events must be defined operationally, (3) recording procedures usually involving time measurement, have to be selected that permit a high degree of interobserver reliability, (4) raw data need to be converted from frequency counts or time units into graphic, tabular, or statistical forms (Bijou, Peterson, and Ault, 1968)

Specification of the situation is often accccomplished by noting static descriptors and listing such relevant facts as time of day, place, persons present and nature of ongoing activity

Operational definitions of events to be observed take the form of rather discrete, predetermined categories (example the Flanders or Sears and Sherman lists cited above) that permit an observer to code ongoing behavior almost instantaneously As Medley and Mitzel (1963, pp 252–253) pointed out, this coding represents primarily a qualitative judgment of whether or not a particular type of behavior is occurring rather than a quantitative estimate of the degree to which a particular characteristic or collection of behaviors is manifest. In this latter instance behavior is being rated rather than classsified While observer judgment is necessary in the use of both checklists and rating scales considerable difference exists in the kind of judgment required With checklists, only the most elementary discrimination is made of whether or not a particular behavior or behavior type occurs during a given point in time, whereas ratings require quantitative assessments of the extent to which behavioral patterns are in evidence, often over considerable longer time periods. Usually, a rating is based on many individual behaviors rather than on each one separately

Most often action checklist data take the form of (1) tally marks alongside category listings (2) sequential listing of symbols representative of

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[3] The last two categories were later combined because of similarity of function An original social/hostile category was dropped because, in the classes used by these investigators overt aggression seldom appeared (Sears, private communication)

Checklist Data

behavioral and stimulus events (example Figure 41) or (3) sequential time notations indicative of the duration of particular behaviors (Perkins 1964) All three types of data permit calculation of frequency of occurrences and nonoccurrences if time intervals are specified With only the later two forms however is the sequence of events preserved in the data, thus allowing later analysis of antecedent stimuli in relation to consequent responses

Determination of frequency-of-occurrence counts with the Flanders type of data is simply a matter of counting the number of each of the category notations, since behavior is classified and noted every 3 seconds [4] Likewise the duration of particular behavioral types can be calculated merely by multiplying 3 seconds by the number of similar numerals in a sequence Thus the first sequence of the numeral 6 in Figure 41 indicates that the teacher gave directions for 12 seconds before assuming a lecturing role (see Fig 42) Perkins (1964) data were obtained by holding pencils on a slow moving tape on a Bales interaction recorder at points along a vertical scale opposite the category being observed When behavior changed pencils were moved along the vertical scale to correspond with the appropriate categories Conversion to time data was accomplished by measuring the length of resulting horizontal lines on the tape

Two basic types of action checklists can be distinguished (1) *category systems* and (2) *sign systems* (Medley and Mitzel 1963 pp 298-303) The Flanders and Sears and Sherman's systems described above exemplify the former, and W W Anderson's procedure (1971) reviewed below (see especially Figure 43) represents the latter

A category system is designed to provide classification of each behavioral unit observed into one and only one category The separate categories making up a system are mutually exclusive and independent with respect to each other Each category system focuses on only one aspect or dimension of behavior, such as classroom climate or interaction content The number of categories is usually limited (often ten or less) to permit easy coding, but the total set of categories is exhaustive of all the behavior that occurs that is each behavior can be classified somewhere within the total set Often an "other" or miscellaneous" category must be inserted into the set of categories which have been precisely identified in terms of the research variables under study in order to provide an exhaustive system For example the last category of the Flanders system (Figure 42) is reserved for those times when either no one is talking or so much confusion exists that an

[4] Some modification of this rule may be necessary if additional notations are made to represent behavior changes within this 3-second period, as indicated in the instruction manual (Amidon and Flanders, 1967)

observer cannot clearly distinguish who is saying what With this category included, classroom behavior can always be classified somewhere within the system

A sign system consists of a number of discrete behaviors precisely identi fied in terms of research purposes, any of which may or may not occur during a given time interval For example, "a teacher isolating pupil from classroom activities for disciplinary reasons" and "a pupil fighting at school' might be two of many specific behaviors listed in a sign system for studying school discipline Compared with a category system, a sign system is usually made up of a much larger number of types of behavior to be observed, but the behavior types are more narrowly defined and occur much less fre quently Whereas an observer using a category system must record every behavioral or time unit, one employing a sign system may watch for rela tively long periods without seeing and recording any behaviors, simply because the particular behaviors making up the sign system do not occur That is (Medley and Mitzel, 1963, pp 302–302)

> A noteworthy feature of signs is that one recorder can use a relatively large number of them simultaneously In contrast, he can use only one category system at a time But, if a particular sign must be checked every few seconds the observer is not going to be able to use many other signs with it. Important behaviors that occur frequently should, if possible, be incorpo rated into a category system those that are relatively infrequent should take the form of signs

Medley, Quirk, Schluck, and Ames (1971) combined both types of systems in constructing their Pupil Record of School Experience (PROSE) This instrument requires one pupil to be observed at a time and his behavior classified every 25 seconds over a 100-second interval according to an inter action category system Then appropriate static classroom conditions are checked along with any of 27 specific behaviors this youngster exhibited during the 100-second interval In addition, certain teacher behavior signs are checked also if they were observed during this interval Some of the pupil behavior signs are listed as follows asked another pupil for help cried, tattled, led other pupil, used numbers, disobeyed, was cited to his peers as a good example.

A sign system was used by W W Anderson (1971) for observing five pupils simultaneously (see Fig 4 3) Every 10 seconds (to 7 minutes), notations were made on an appropriate form (Figure 4 3) to indicate the type of behavior observed during that interval of time for each of the five children under observation *V* refers to verbal self-directed activity (SDA), which is related to instructional goals but free from the direct influence of the teacher *N* refers to nonverbal self-directed actions that are also goal

FIGURE 4.3 SELF-DIRECTED ACTIVITY RECORDING SHEET (ANDREWS, 1971).

oriented The subscript numbers 1 and 2 refer to differing levels of activity in relation to the cognitive aspects of the school environment "Asking a child for a ruler needed to do an arithmetic problem" would be coded V_1, while "looking up an item of information in a reference book" would probably be classified as N_2 A dash is entered for each child observed who is not engaged in SDA during the 10-second interval Direct responses to teachers' directions or to a question posed directly to the individual are not considered self-directed, nor is disruptive and mischievous behavior, talking to classmates (unless clearly goal-directed), or leaving one's seat to get a drink or go to the toilet

As the pupil summary indicates, pupil D (Jim Davis) was much more "self-directed" on the two days observed than any of the others Pupil B was not observed once in a self-directed activity, and pupil E was noticed only one time in such activity This coding procedure illustrates an attempt to obtain behavioral data on several pupils simultaneously Stability coefficients from one day to the next were 0 61 for groups and 0 50 for individuals, whereas coefficients of observer agreement were above 0 90 for both individual and group measurements

Activity Logs

The log has long been used as a procedure for recording regularly and precisely certain information regarding ongoing events Navy officers are required to log the time they assume officer-of-the-deck responsibilities, the longitude and latitude, ship speed, and other conditions or events encountered during each watch they stand These logs often represent the major legal documents available in trials and court martials for determining responsibilities for naval mishaps Similar logs are used for both military and commercial aircraft flights Punching one's time card when entering or leaving one's place of employment is a form of logging in and out

A log provides a permanent performance record of an activity, such as a ship's voyage, a boiler's operation, a drilling of a well It takes only minimal imagination to recognize its utility in providing records of school days, business days, and sales contacts with particular clients or customers With proper category development, regular records can be kept to indicate how a day or even an hour is divided into various activities or events The major task in developing logs of institutional activities is selecting molar categories that overlap little but when taken together account for an entire block of time Activity categories must be clearly defined and illustrated, and beginning and ending points must be readily discernible

Activity logs share a number of qualities with other, more traditional logs First the time when events start and stop is almost always a routine

entry Content is usually limited to major happenings and regularly taken performance or activity measures. Such logs serve to direct observations to performance or activity measures. Such logs serve to direct observations to certain important features of a performance at frequent intervals, thereby minimizing chances of important changes in activities going unnoticed. By restricting the amount of content, it is not only possible but also desirable for the person most responsible for the performance to fill out log entries himself Any judgments connected with determining what and how things should be entered can be his responsibility, adding to the official nature of the log Standardization of entry information is necessary so that comparison of one performance with another is also possible In brief, the design of logs is generally streamlined for systematic, swift easy, entry of highly selective information at regular intervals

Figure 4 4 (p 106) presents a one-sheet log which covers major activities in a nursery school day It has been filled out according to an empirically derived set of instructions (Brandt, 1964) Each time a major activity change occurs during the course of a day, the teacher or her aide merely enters the time after the appropriate activities, noting the beginning of the new activity and the ending of the current one She also places check marks in columns to the right, indicating predominant characteristics of the current activity that has just been completed On-the-spot judgments are made regarding each of four major descriptive dimensions For example, the first activity on March 3, 1968, was *free play* which began at 8 45 and ended approxi mately at 9 10 These times were entered by the teacher, Miss Smith and upon quick reflection about each of the dimensions, four check marks were made to indicate the general nature of the activity She decided that most of the activity had been of the large-muscle type that the majority of children had grouped themselves individually (with parallel play rather than coop erative effort predominant), that what activities and how they had been carried out had been determined primarily by pupils themselves, that the content aspects of the period were primarily conduct and behavior-oriented rather than cognitive and reflective It should be pointed out that coding of the same activity type from time to time does not always produce these same results. For example, a second *free-play* period at the end of the morn ing was coded as approximately half *gross* and half *small* motor quality, and primarily intellectual in nature The children were involved mainly in block building, puzzle completion, and drawing activities in this latter instance Miss Smith noted also during the first free-play period that she had observed five children pretending to be somebody else (example a fireman, a mother spanking her baby) distinctly enough to discern the role being assumed

The first set of notations was entered by Miss Smith as the children were becoming quiet for the flag salute and other opening ceremonies. the sec ond major activity of the day In this manner the log was kept current as the

FIGURE 4.4 CLASS ACTIVITY LOG (BALTIMORE EARLY ADMISSIONS PROJECT, DEVELOPED BY R. M. BRANDT).

* Motor Activity is entered at both Gross and Small so half of the 10-minute period has been included in each grand total. The Instruction Manual for this log is available from the author.

morning proceeded At the end of the day Miss Smith totaled the various columns and reflected on the overall pattern they indicated in relation to her plans and expectations for the class

There is no question about Miss Smith being influenced in her teaching by the log keeping process Part of the purpose of any log is to improve or at least maintain quality performance along certain lines by regularizing certain observations keeping this log daily or only inspecting what an aide has filled out is bound to make Miss Smith recognize how she is grouping her children how much time they are going to the washroom and to monitor other such patterns a little more closely than she otherwise might do

Despite the effect that logs produce on institutional activity they have scientific value similar to running records of this activity if they are carefully, accurately and systematically kept Reliability checks can be made from time to time to see how much other observers agree with Miss Smith and how satisfactory the instruction manual (Brandt 1964) is as a guide to the logging process

In one study by a student (Hildenberger 1970) the Class Activities Log was used on ten summer follow through classes with the average findings shown in Figure 4 5 Even though these percentages were descriptive of a summer program for children who were only about six years of age teachers were involved in the selection of childrens activities over three-quarters of the time and content was characterized as having an intellectual emphasis—almost half the time. As might be suspected however stationary activity—in which children stood or sat moderately still while watching listening talking, or singing—accounted for only one fourth of the school day

A Motor Activity		B Class Grouping	
1 gross	35	1 total	32
2 small	40	2 split	28
3 stationary	25	3 small groups	16
Total	100	4 individual	24
		Total	100
C Selection of Activity		D Content Orientation	
1 teacher	41	1 pupil behavior	53
2 partial teacher	36	2 intellectual	47
3 pupil	23	Total	100
Total	100		

FIGURE 4 5 PERCENTAGES OF TOTAL OBSERVED TIME SPENT ON VARYING TYPES OF FOLLOW THROUGH CLASS ACTIVITIES

Discrete Event Records

Whereas activity logs are designed to cover the total time of an operation, dividing this time according to the major shifts in activity from beginning to end, records of particular types of human events that happen irregularly with respect to time are also valuable. Compilations of the dates, times and other key facts about these happenings, whenever they occur, can be labeled discrete event records. No attempt is made to account for time allowed between the events itemized, but only for the time that constitutes a complete record of a very limited type of happening.

Examples of discrete event logs are numerous. Common examples include adolescent diaries of dances attended, lists of airplane hijackings, records of labor strikes, murders, or kidnappings, and even the list of itemized, long distance calls that accompanies one's monthly bill from the telephone company.

Construction of discrete-event records is simply a matter of identifying the class of event that is to be recorded and the specific features that are to be noted, and then systematically recording each event as it happens. The adolescent dance diary might contain primarily date, time, place, and name of the person(s) with whom one attended the event. Obviously, the telephone list includes the date, location, number called, and cost of call.

Discrete-event records can be put to the same uses as other types of naturalistic data. Bryan (in Webb et al, 1966, p. 144) for example, used the frequency of incoming telephone calls received by prostitutes during interviews he held with them, as a partial check on the accuracy of their self-reported business activity.

Standardized Situation Responses

In the course of institutional activity, certain specific situations occur and recur regularly and naturally enough to be ideal for measuring a limited amount of behavior or performance under nonstressful yet relatively standardized conditions. Behavior alternatives are often clear cut and readily observable. Thus human performance can be surveyed readily and routinely. Comparisons can be made among people merely by tallying and tabulating responses made in the same basic situation.

If someone were studying possible differences in regional mores with regard to man woman relationships, certain standard situations could be utilized for obtaining comparative data. Door holding is one of many behaviors that might well be studied in prescribed situations. Unobtrusive observers could merely tally the instances of men holding doors and not holding doors for women at the entrances to comparable retail stores in Atlanta and Boston, Charlotte and New York.

The standardized situation is well exemplified by the reading circle in elementary school, where children take turns reading aloud to the teacher and a small group of classmates, the collection of money during church service, or by the coffee break at the office, where behavior-choice is limited to bringing coffee from or going to the cafeteria, going by oneself or with others, and a relatively small number of alternatives. Children cleaning their lunch plates or not, completing their assignments or not during study periods, raising their hands or not during class recitation staying in or dropping out of school when reaching age 16—each of these patterns further illustrates standardized situation responses. Massive amounts of valid checklist data can be readily gathered relevant to studies of food preference, difficulty of academic work, classroom instruction and school dropouts in the examples above, as well as thousands of other areas of investigation.

By careful selection of those institutional situations where performance is most naturally manifest, observation of what happens from person to person and when one or another major situational variable is altered can be most revealing.

Standardized situation research within an institutional setting often approximates the precision of laboratory research. In both instances actual performance information provides the data rather than the verbally reported behavior that is obtained through interviews and questionnaires. The major limitation of laboratory experimentation does not apply, namely, not knowing how transferable the findings are to real life settings. A recent review (N. C. Smith, Jr. 1970) of replication research shows that in many instances the findings of laboratory studies are not sustained when they are repeated especially under naturalistic conditions. Standardized situation data originate in such settings, and no assumption of transfer needs to be made.

One example of useful standardized situation research is provided by a school supervisor (Wimbish, 1967, who was also a student at the time) who studied selected bathroom behavior in both an elementary and secondary school that were under her jurisdiction. By stationing herself in one of the individual lavatory booths and raising her head slightly every so often she was able to observe who combed their hair, washed their hands, flushed toilets, and made appropriate adjustments to their clothes. Over several days, she discovered that whereas three-fourths of the elementary children flushed toilets after using them and washed their hands, only about half the high school pupils followed these patterns. What at first glance may seem to be an unnecessary invasion of privacy by a 'Peeping Polly' provided solid information that, with discretion, could be incorporated into the health curriculum, especially in the high school above.

Another clever study (Hahn, 1968) was conducted on the extent to which conformance to driving regulations varied in relation to the strength of authority stimuli. Conformity was measured by whether or not drivers used

a turn signal (automatic or hand) when making a left-hand turn. The three intersections selected represented approximately equal traffic situations but differed in "authority stimuli" with respect to driving regulations. At one intersection, only painted lines divided the lanes of traffic and left-turn lane markings were present to remind the motorist of regulations. At a second intersection, a traffic light was operative and assumed to have greater "stimulus authority." At the third intersection, a policeman directing traffic was assumed to be the greatest "stimulus authority." Because of his heavy duties, this policeman obviously did not have time to stop all drivers who did not signal, as long as more serious driving violations were not manifest. Results were in the expected direction, with 57, 64, and 81 percent signaling at the respective intersections (chi square $= 22.48$, $p < .01$).

Work Measurement

Both the time and motion studies of the early industrial engineer and the work assessment and operations analyses of the contemporary management expert exemplify singularly high precision in behavioral measurement. Human movement has been broken down into well-defined motion categories (example: reach or grasp) and these, in turn, have been measured sufficiently often to provide normative data regarding the time it takes for each motion to be made under such varying conditions as the distance of a move and the size of objects handled. Evidence of the precision of these measurements is symbolized by the creation of a special time-measurement unit (TMU) for this field. One TMU $= 0.036$ second (1 second $= 27.8$ TMU). Based on years of time-motion studies, tables of predetermined time standards, expressed in TMUs, now exist covering most basic work motions made in the factory and office. For example, the time listed for reaching 4 inches for a single object in a fixed location is 6.1 TMUs, whereas reaching 4 inches for an object jumbled with other objects in a group, so that both searching and selecting occur typically, takes 8.4 TMUs (MTM Association, 1965). The standard data, as these predetermined time units are called, are applied in the analysis of an operation once the basic elements and conditions in that operation are clearly specified.

Figure 4.6 shows a typical analysis chart as it was applied to the study of an assembly operation. The descriptive columns show in carefully chosen, specific terms the breakdown of the total operation into the basic motion elements for both the left and right hands. The words "to" and "from" are used, for example, to designate the origins and destinations of reaches and moves. Objects, parts, tools, or other material on which action is taken are clearly specified. The symbol columns present what the operator does in the way of motions as they have been coded in a clearly defined manner. The assignment of standard data to each motion is shown in the TMU column.

METHODS ANALYSIS CHART						
Project _____			Date 7/26/'56			Sheet No 1 of 1
Part _____ INSULATOR ASSEMBLY			Analyst C I Kno			
Operation Assemble bushing and grommet						

DESCRIPTION – LEFT HAND	No	LH	TMU	RH	No	DESCRIPTION – RIGHT HAND
A OBTAIN PINS PLACE IN FIXTURE						
to pin supply		mR6C	7 2	mR6C		to pin supply
			9 1	G4B		select one pin
select one pin		G4B	9 1			
pin to fixture hole		M9C	12 7	M9C		pin to fixture hole
orient head down	2	G2		G2	2	orient head down
			– –	M2SD		push into hole
			21 8	P2SD		
push into hole		P2SD	21 8			
let go of pin		RL1	2 0	RL1		let go of pin
			83 7	TMU		TOTAL ELEMENT A
B OBTAIN ASSEMBLE BUSHINGS						
to bushing supply		R10C	12 9	R10C		to bushing supply
			12 9	G4C		select one bushing
select one bushing		G4C	12 9			
bring to pin shaft		M10C	13 5	M10C		bring to pin shaft
preorient in fingers	2	G2		G2	2	preorient in fingers
push onto pin		P2SD	21 8			
			21 8	P2SD		push onto pin
let go of bushing		RL1	2 0	RL1		let go of bushing
			97 8	TMU		TOTAL ELEMENT B
C OBTAIN ASSEMBLE GROMMETS						
to grommet supply		R12C	14 2	R12C		to grommet supply
			12 9	G4C		select one grommet
select one grommet		G4C	12 9			
bring to pin shaft		M12C	15 2	M12C		bring to pin shaft
preorient in fingers	2	G2	– –	G2	2	preorient in fingers
			48 6	P3SD		push onto pin
push onto pin		P3SD	48 6			
			147 4	TMU		TOTAL ELEMENT C
D ASIDE ASSEMBLY IN HOLE						
get new hold all parts		G2	5 6	G2		get new hold – all parts
pull assembly from hole		D2D	11 8	D2D		pull assembly from hole
assembly to dispose hole		M38m	3 6	M38m		assembly to dispose hole
drop into hole in table		RET	– –	RET		drop into hole in table
			21 0			TOTAL ELEMENT D

FIGURE 4 6   MOTION ANALYSIS OF INSULATOR ASSEMBLY (KARGER AND BAYHA, 1965, p 385)

Summating the TMU subtotals for the operation elements gives the overall total of 349 9 TMUs, which in turn is converted into 0 12072 minutes per piece and 497 0 pieces per hour The allowed rate of production according to this particular method of assembling the bushing and grommet can then be compared with the actual number of pieces produced by individual operators over a given time period

Obviously, the methods time measurement (MTM) specialist uses many other forms and collects numerous types of data when undertaking a complete analysis of factory or office operations His total assignment involves both *task analysis*, in which an overall operation is broken down into its component parts, and *motion analysis*, in which the precise movements of the type illustrated above are measured The former is probably less precise but more meaningful The fundamental nature of this work and the quality of the basic data are shown in Figure 4 6

It is clearly recognized, of course, that MTM data cover only manual operations and that predetermined times do not supplant time study of other operations Instituting an operations improvement program requires a complete accounting for the time of employees, both the number of times each standardized operation is performed and the time spent otherwise If there are times that a typist has no work to do, or if her typewriter breaks down so that she cannot do her assigned work, the time must be noted and analyzed separately (Payne and Swett, 1967)

This brief sketch of some of the key aspects of work measurement is presented to show the nature of the task and the quality of the data Work measurement is a highly refined type of naturalistic study that is practiced in an extensive variety of businesses and industries in an effort to improve operations and increase efficiency This limited presentation can serve only to introduce the topic, as the procedures used by contemporary work analysts are highly complex The student or practitioner in this field is referred to such authoritative sources as Karger and Bayha (1965) It would be a serious omission, however, to eliminate all reference to work measurement in this volume, as it constitutes one of the major efforts in the measurement of human behavior in natural settings Undoubtedly, many contributions will be made from this field to behavioral science generally in the years ahead.

Performance Records

At work, in school, and at play, people often perform specific tasks under relatively standardized conditions and with rather precise, objective scoring measures. The rules of golf or tennis, for example, create somewhat standard setting conditions and task requirements, although one's

opponent in tennis, particularly, is a major factor that is highly variable. Matching and rotating opponents, as in tournament play, cuts down considerably on this variable. Similarly, other variables, such as weather, keep such tasks from being perfectly standardized from day to day.

Sufficient standardization often prevails, however, to convert records of one's performances into meaningful behavioral data that are useful for estimating individual skill or ability, rather precisely. Thus the list of opponents one has played in tennis over the past three months, along with the actual scores received is probably the best predictor of how one will fare against one's next opponent, assuming similar scores are available on the latter's tennis performance.

A game that seems to be especially standardized in its task prescription is duplicate bridge. The observer must consider not only the rather precise rules for bidding playing, and scoring of ordinary bridge applicable, but also the actual hands that a player faces as they are played over and over by the other players and as players rotate in round robin fashion until they have played the same number of hands with each other person in the group. An accurate, objective record is kept of each partnership's key moves and of their success or failures.

In work life also, many tasks are faced by individual employees that are sufficiently similar from one situation to the next to make performance records useful behavioral data. The number of pages secretaries type in an hour, the number of finished pieces a machine operator completes in a day, and the amount of merchandise sold in a week by a salesman are all objective measures of one's work performance and are useful in naturalistic research.

Before using performance records for research purposes, some investigation ought to be made of their accuracy and completeness. In many cases they have been filled out by a variety of persons in a haphazard manner. Some determination ought to be made of how rigorously rules regulations, and prescribed patterns were enforced in the original task performances. Questioning participants or observers about the conditions under which play occurred or work was performed and observing current performance activities usually permits some estimation of the degree of standardization in the original performances and the overall validity of resulting records as measures of human performance. Obviously, games played without referees or umpires are likely to be less well standardized than those played under the supervision of such officials. Similarly, certain tasks in work life can be accomplished in a variety of ways while others are done in a highly routine manner. In the latter instance especially, records of how many tasks are completed in a given time period can be highly reliable indicators of human performance when quality-control checks are also made.

Contrived Situation Responses

Similar in most respects to the standardized situation, the contrived situation differs only in that it does not occur naturally. It is set up with the specific purpose of measuring performance However, if it is well designed, the participants themselves do not realize that they are being measured or that the events are contrived The well-contrived situation seems to the participants like an ordinary one Only the institutional researcher need know its real purpose

There are many examples of contrived situation research in behavioral science In their classic study of character, Hartshorne and May (1928) designed many ingenious situations in which children were provided opportunities and temptations to cheat and lie, presumably undetected What was discovered in general was that honorable behavior was more related to situational variables, such as amount of risk involved, than to any central character traits like honesty Most children cheated when the stakes were high enough and the risks low Few children cheated under the opposite conditions

Other studies utilizing the contrived-situation model are the researches cited earlier with regard to leadership style and group interaction (Lewin, Lippitt, and White, 1939) Another series of researches, by much the same group of people, tested the frustration-aggression hypothesis, that is, increase in frustrating conditions leads to increase in aggressive response (Dollard et al , 1939) In other studies, young children were allowed to become acquainted with some fascinating toys in a big playroom and then became frustrated when a transparent screen was pulled down to divide the room in half The children were left with relatively uninteresting toys, but were still able to see the more interesting ones Regressive behavior of various sorts resulted from this intrusion (Barker et al , 1941) More recently, R R Sears et al (1965, pp 207–209) have conducted some fascinating studies of children s conscience development by having them look after guinea pigs that disappear the minute the children forget their duty and start to play with tempting toys nearby Merritt and Fowler (1948) reported an ingenious test of public honesty by dropping on the street two kinds of stamped and addressed envelopes, those containing only an ordinary message and those with large slugs resembling coins Of the former, 85 percent were returned, but of the latter, only 54 percent came back, 13 percent having been opened

The reason that the contrived situation response is listed under naturalistic research even though it is also produced in much laboratory research, is again its similarity to everyday behavior The contrived situation is per

ceived by the behaving person as natural habitat. He is unaware of the fact that the situation he faces is really a test and that his behavior is under the microscope of hidden observers. The responses he makes, therefore, represent his ordinary, everyday behavior.

With only minor changes in institutional procedure, it is possible to contrive many situations to measure human response unobtrusively. The practitioner can utilize his imagination to great advantage in constructing performance tests of all sorts.

In one study of children's food preferences, for example, a midmorning snack break was inserted into the school schedule in several classrooms. Each day, children were allowed to choose a baking cup that contained one of three types of food cereal, sweets, and fruit. The particular food of each type was varied systematically from day to day and amounts were approximately equalized by using a standard baking cup container. Unobtrusively, records were kept of each child's selection. Several useful findings were discovered (1) overall statistics showed all three types of food chosen equally often, (2) the majority of children were relatively inconsistent in their choices, varying the food type chosen from day to day (3) older children selected sweets more often and cereal less often than did younger children (Shreeman, 1967).

Not particularly momentous as nutrition research, this study still adds solid evidence to the rather limited number of scientific investigations in the area of children's food preferences reported in child development literature. In addition, the school itself obtained some intriguing information on its own pupils, which could be used in a variety of ways in its instructional program. How much more meaningful would be a unit on food types or food process ing after the children themselves had been involved in such a study. At the time it was conducted, however, they did not even realize they were part of an investigation because the selection situation seemed a natural one.

Many other illustrations can be cited to indicate how easily situations can be contrived to permit solid investigation of all sorts of institutional problems and processes. The need to know what kinds of games, toys and reading material were available in the homes of lower-class children prompted one school to focus the 'sharing period,' on the first day following Christmas vacation, on gifts received. Thus, a normal instructional activity (namely, 'show and tell' to encourage children's verbalization) was structured slightly more systematically than usual so that each child who wished to share was allowed to identify one gift he received (Greene, 1966). The extent to which high school pupils will follow rules about not walking on the gym floor with street shoes on was determined in another study by asking pupils occasionally to go to the gym for a clipboard that had been left near the center of the court. By making these requests at times when the gym was

empty, but with an observer present in a darkened office, a record was gradually gathered of the percentage of pupils who removed their shoes before going on the newly waxed gym floor (Close, 1967) Insignificant by it self, perhaps, this study could be readily supplemented by other contrived rule following or rule-breaking situations if institutional efforts were properly coordinated to provide much needed, solid research information regarding childrens character development Much is written on this subject today in both the lay and professional press, with only meager interview and questionnaire data to support the various theories

Simulation Tests

Training programs often consist in part of practice activities similar to those found in the actual occupations for which trainees are being prepared Thus, engineering and architectural students are faced with hypothetical but lifelike problems to be solved, airplane pilot trainees operate simulated equipment (for example, a Link trainer), and budding psychologists analyze actual case materials prior to assuming the full practitioner's role In many fields, games are also available in which the kinds of decisions made in real life are approximated under hypothetical conditions. Students and trainees are confronted with activities in which they must practice the professional roles they are learning under increasingly realistic conditions.

As distinct from training in specific skills one at a time, the simulated situation requires functioning at the same level of integration and under somewhat similar conditions as one would have to exhibit in the field itself Simulated conditions demand an ability to perceive and respond appropriately to the whole situation and the multiplicity of variables it contains, and to coordinate one's actions toward a total role performance without yet having the responsibility for successful performance with which the true practitioner is faced

A simulated situation is both contrived and standardized by program developers A simulated response differs from the previously mentioned checklist responses, however, in that the trainee knows he is undergoing training and his actions are being monitored The simulated condition is not the real situation and the performer is fully aware of this fact Yet, he must make lifelike types of decisions, and because of this similarity, his performance behavior is essentially naturalistic

One of the classic examples of simulation activities was designed by the OSS (Office of Strategic Services, 1948) for assessment of intelligence agent recruits during World War II Included in a wide battery of measurement devices were a number of situational tests in which individuals or small

groups of recruits were required to perform highly *realistic* tasks under simulated field conditions. For example, one group assignment was to transport a delicate range finder from one side of a brook to the other without getting into the water, since the brook was presumed to be a raging torrent (OSS, 1948, pp 94-99). The principal materials available for completing the asssignment consisted of the trees on both sides of the brook, a number of boards, none long enough to reach across it, three lengths of rope, a pulley and a barrel with both ends knocked out. A variety of solutions was possible, each requiring the coordination of numerous *components of personality,* which were rated by assessment specialists as they watched groups work on this assignment.

Other simulated tasks included building a three-person observation platform high in a tree, with limited materials, erecting a large army tent on hard ground on a hot day, making a structure for scaling a 10-foot wall, requesting information one would need about Korea if given the assignment of designing a propaganda program to win the Koreans over to our side, examining a courier's map for 8 minutes as if on a secret rendezvous and then being tested with such questions as, "The place that cannot be reached by railroad is (a) the ammunition dump, (b) Laketown, (c) Wilburn, (d) the seaplane base, (e) Martown" (OSS, 1948, p 126).

The simulation activity provides an excellent opportunity to rate or score behavior under highly realistic conditions. Certain characteristics can be scored directly with objective performance measures, such as speed and correctness of solution, while others can be rated only as they are displayed in the simulated situation.

During almost two years of experimentation a number of guidelines were crystallized in the OSS project for designing effective situational tasks. Guidelines that seem generalizable to the design of many types of simulation activities call for situational tasks that (1) have a number of alternate solutions, (2) require coordination of various abilities and tendencies rather than highly restricted single aspects of behavior, and (3) provide opportunities for participants to report their feelings about their performances, either during the task or immediately afterward (OSS, 1948, pp 227-228). Obviously, task *instructions and materials* or equipment to be used must be standardized, although they should be made as realistic as possible.

Trait Indicator Checklists

One further use of the checklist is to clarify the meaning of rating scales. A teacher attempting to rate her pupils on visual deficiencies would be assisted by a list of observable indicators, such as the following: book held close to face, rubbing eyes, loses place frequently in reading,

tilting head, and tense body during visual work. Illustrative of hearing-deficiency indicators that she might use is a student's turning of one ear toward the speaker and frequently asking for questions to be repeated. Many future naturalistic instruments are likely to be constructed by breaking down a general trait into a list of behavioral indicators of that trait and then following some systematic procedure for looking for such behaviors. An example of such an instrument will be presented in the next section (see, especially, Fig 4 8)

RATINGS

Perhaps the most prevalent type of observational data within the behavioral sciences is the rating, a judgment made about the degree or extent of some human characteristic. Traits and conditions are often assumed to vary from one extreme to the other, from nonexistent in a particular instance to predominantly existent in another Thus, one man may be judged as fully responsible, generous, or thoughtful, while another may be considered just as completely irresponsible, stingy, or inconsiderate Most people, however, would be evaluated somewhere between these extremes on any of the preceding traits or a thousand others on which they might be rated

The difference between checklist data and ratings is primarily a matter of the kind of judgment required of the observer With checklists, he classifies behavioral events His judgment is qualitative, whether or not a particular kind of behavior occurred, or what kind of an event it was. Other than noting the frequency or duration of behaviors falling into certain predetermined categories, his recording procedures play no role in the quantification process. Quantification of checklist data is done after data gathering, by summating recorded frequencies or time units. In contrast to this type of judgment, ratings represent a quantitative assessment of the degree to which some quality is present (Medley and Mitzel, 1963, pp 252-253)

The underlying scheme for most rating methods is essentially the same. A psychological continuum is defined in which the characteristic(s) to be rated is indicated and "a judge is asked to evaluate and allocate samples along this continuum at a sequential array of waypoints" (Horrocks, 1964, p 573) As Guilford (1954, p 220) points out, no assumption should be made of psychological equality of the intervals between these waypoints, but they must be in correct rank order Although there are several varieties of rating scales, almost all are based on the concept of continuum and are merely different ways of describing the waypoints to the rater

Various classifications of rating scales can be found in the measurement

literature (Harris, 1960, Remmers, 1954, pp 222-234) Guilford (1954, pp 263-301) describes five major groupings *numerical, graphic, standard, cumulated points,* and *forced-choice* Three of these are discussed below

Numerical rating scales are those in which numbers are assigned, usually on an a priori basis to descriptive categories examples

$$3 = \text{highly conscientious}$$
$$2 = \text{somewhat conscientious}$$
$$1 = \text{not conscientious}$$

Figure 4 7 shows the format and a few of the items from one experimentally refined numerical scale developed by Ryans (1960 p 60) Definitions are provided for each of the terms in this scale and careful training of raters is recommended re-emphasizing the fact that *ratings are primarily a function of the observer* rather than the paper device he uses (Remmers, 1963, p 332)

	Teacher _____ No ____ Sex _____ Class or Subject _____									
	Date ____ City _____ School _____ Time ____ Observer ____									
	Pupil Behavior									
1	Apathetic	1	2	3	4	5	6	7	N	Alert
2	Obstructive	1	2	3	4	5	6	7	N	Responsible
3	Uncertain	1	2	3	4	5	6	7	N	Confident
4	Dependent	1	2	3	4	5	6	7	N	Initiating
	Teacher Behavior									
5	Partial	1	2	3	4	5	6	7	N	Fair
6	Autocratic	1	2	3	4	5	6	7	N	Democratic
Etc.										

FIGURE 4 7 CLASSROOM OBSERVATION RECORD TEACHER CHARACTERISTICS STUDY PARTIAL ASSESSMENT BLANK EMPLOYED BY OBSERVERS (FROM RYANS, 1960, p 86, WITH PERMISSION OF THE AUTHOR AND PUBLISHER)

Numerical scales are in wide usage, which is due in great part to their ease of construction and application Data can be processed in a relatively simple manner unless psychophysical scaling is performed on them by empirical means. However, it should not be assumed that the numbers assigned to the scale categories adequately represent psychological reality Scaling has become a highly refined set of techniques that goes beyond the

scope of this volume. The student should refer instead to such authorities as Guilford (1954), Torgerson (1958), and Bien et al (1966).

Graphic rating procedures provide continuous straight lines with cues along these lines to help raters determine where to note their judgments for example

1	1	1	1	1
very fair	fair	neither fair nor unfair	unfair	very unfair

Suggestions for constructing graphic scales include (1) using an unbroken line so as to suggest variable continuity, (2) making the socially desirable end the same for all traits in order to facilitate the rating process, and (3) placing descriptive categories close to the points of the scale they describe (Remmers, 1963, p 335).

With *cumulated-points* scales items are arranged so that each one acts as a separate indicator of an overall trait and can be scored in the same manner as many psychological tests. For example, Leeds and Cook (1947, p 154) asked pupils to rate their teachers on a 50-item questionnaire, consisting of items like the following

4 Does this teacher scold the pupils a lot?	Yes	No	?
6 Does this teacher explain the school work so that you can understand it?	Yes	No	?
49 Do you like this teacher?	Yes	No	?

Each response was scored 0, 1, or 2 according to its favorability, and then summed over the 50 items to derive a rating of a teacher by one pupil. The mean of all pupils' ratings of the same teacher was calculated next. For this particular questionnaire, the reliability of the mean of about 20 pupils was found to be about 0.90 (Remmers, 1963 p 339).

The wide usage of rating techniques in behavioral research can be attributed to the relative ease with which they quantify and make possible the comparisons of various human attributes that otherwise are difficult to measure. It is difficult to agree on an adequate test of traits such as generosity yet it is generally accepted that some people are more generous than others. Because generosity, along with hundreds of other traits, seems to be an important human quality worthy of scientific research the rating scale is likely to be utilized. Rating techniques therefore make possible the behavioral research of important areas that without them would seldom be studied.

Although careful design of rating scales can minimize defects, rating scales generally suffer many inadequacies as scientific measuring instruments.

Only by understanding the inherent weaknesses in most rating scales can defects be guarded against in others

The most obvious weakness is the ambiguity of the trait itself What one judge considers generosity another does not Generosity, responsibility honesty, aggressiveness and other adjudged human qualities are rather imprecise designations that people typically do not agree on even highly trained psychologists Their global cultural interpretations work against precise definition

A second drawback to many rating scales is the major assumption under lying trait psychology namely that traits like generosity tend to be dis played in consistent fashion from time to time and situation to situation Many theorists and some research tend to contradict such a notion (for examples see Hartshorne and May, 1928) (See also p 114 of this volume for earlier citation)

Lack of agreement on which traits truly exist and how they are displayed leads to other weaknesses in rating techniques Usually without realizing it judges often permit their rating to be influenced by other qualities besides the one being rated This 'halo effect is especially operative when the judge is well acquainted with the person being rated or when several qualities are being rated one after the other Thus if the judge feels generally favorable toward a particular individual he is likely to upgrade his ratings of that individual on all positive attributes and downgrade his ratings on all nega tive attributes A rating by a friend of one's generosity is likely to be higher than if that person were not a friend Although many traits are rather global in nature an even larger impression or general halo regarding the total virtue or lack of virtue of the person being rated tends to prevent precise rating of particular traits

Other sources of a rater's bias are the tendencies of some persons to be too severe or too lenient placing most ratings nearer one end than the other of a scale The professor who believes no one should receive an A in his class exemplifies the overly severe rater The jovial fellow who tends to love everybody is likely to skew his ratings toward the other end of the scale Still other persons avoid either extreme on a scale a tendency that deflates reliability coefficients by minimizing individual differences among ratees. This latter tendency functions especially when raters are unfamiliar with the objects or persons being rated (Kerlinger 1964 p 517)

Another bias originates in the fact that certain qualities are more socially acceptable than others. Many people tend to fill out attitude questionnaires by selecting the most socially acceptable alternatives if these can be detected Unconsciously perhaps they often exhibit attitudes that put them selves in a favorable light from society's point of view rather than reveal their real feelings on a given subject Good-quality questionnaires today

control for this tendency by placing alternative responses together for a particular question that have equal social acceptability On an ordinary scale, however, where the degree of an attribute is to be rated, such control is not possible, and the tendency to appear socially desirable affects responses to an unknown extent

Despite these deficiencies, however, ratings have provided and should continue to provide solid data about human functioning, especially if certain precautions are taken Several suggestions for improving the general quality of ratings follow

1 In addition to a mere label or brief description of a trait to be rated, illustrative operational manifestations of the trait should also be supplied These illustrations should distinguish the kind of behavior included from that not included Ambiguity of trait meaning should be reduced as much as possible through ample illustration

2 When a group of people are to be rated on a number of dimensions, all members of the group should be rated on one variable before the next variable is considered Ratings of each dimension should be kept independent of each other The common practice of providing teachers with a single rating sheet for each child, on which they are expected to indicate the quality of pupil development along 50–100 dimensions, only invites distorting halo effects A better procedure would be to (a) to reduce considerably the number of dimensions being rated, (b) to provide a separate sheet for each dimension, (c) to have each sheet contain a good description of the trait and an alphabetical listing of all class members, and (d) to require one sheet to be completed at a time before another is started Once all sheets are complete, the original form could be used by clerks to integrate rated information with other information about each child The extra effort such a system might require should do much to offset the highly unscientific and often damaging features of many current rating procedures

An example of a set of rating scales based on these first two suggestions has been provided by Brandt and Yarborough (1971) Interested in obtaining teacher ratings of pupil affective characteristics, they modified the procedures of Goldstein and Chorost (1966) by reducing to six the number of traits to be rated and restating characteristics in condensed behavioral descriptions Figure 4 8 is a sample of how one teacher rated her students on this modified scale

Teachers were instructed to go down an alphabetized list of their pupils and write each name in one and only one of the boxes that represented, in their opinion, the closest description of that child At no time was a single descriptive term, such as self-confidence, used to refer to the particular scale in question Rather, scales were described only in the manner shown and primarily in behavioral language Teachers were instructed, furthermore, in

1. This child typically gives in to others, fails to assert his own opinions, avoids trying new things, is reluctant to participate in group activities refuses to enter competitive situations He gives up when criticized He seeks constant reassurance

2. This child gives in to others, let others speak for him, follows rather than leads, stays on the sidelines, enters activities cautiously, and doesn't seek competitive situations He becomes discouraged and/or defensive when criticized He frequently seeks reassurance

3. This child participates fully and confidently only in those activities with which he is familiar and in which he has experienced prior success He usually becomes defensive when criticized He often seeks reassurance

4. This child participates fully in most activities—expressing normal confidence over things he does well and seldom hesitating to try new things. He sometimes becomes defensive when criticized He responds positively to reassurance when in challenging situations

5. This child participates fully in most activities—expressing confidence in his abilities, enjoying opportunities to try new things He frequently laughs at his own mistakes and he accepts criticism as a challenge He seldom requires reassurance

1	2	3	4	5
Billie Jones Martha Smith	Sue Babcock Tom Martin Bill Olson Marjorie Pine	Dick Adams Bob Cook Phyllis Doyle Bob Nelson Ronald Rolland Mary Thomas Sally Waters	Phil Baker Mary Carter Mark Elder Jim Foster Sue Gallagher Joe Hendricks Jack Little Grace Piper Al ce Reynolds Bob Swanson Don Thomas	Bill Davis Merle Johnson Sam Mann Mavis Olds Tom Ronson Norm Zigler

FIGURE 4 8   TEACHER RATING OF HER CLASS ON A BEHAVIORAL DESCRIPTION SCALE (BRANDT AND YARBOROUGH, 1971)

an effort to minimize halo effect from one trait to another, to fill out one sheet at a time and not to refer again to a sheet after having completed it and while working on another

3 Whenever characteristics can be rated without knowing the people involved, the ratings should be done blindly Names on themes, drawings,

and other products created by people can and should be covered up before being rated

4 Careful selection should be made of observation situations where traits to be rated are most evident For example, if the quality of pupil study habits is to be rated, teachers are well advised to pay close attention to how their pupils behave during particular study periods and rate them immediately afterward, rather than the night before *report cards are due* when they are assigning marks and rating other traits Likewise, if the working patterns of an employee are to be rated, he ought to be observed closely during work and rated immediately afterward

Although behavioral research literature is replete with data obtained from a single set of ratings by a supervisor or, at best, by several judges, the general fallacies noted above are well recognized by research authorities. In place of single ratings, therefore, it is suggested here that a number of independent, on-the-spot ratings be made of a ratee's behavior at different times and in situations where the characteristics in question can be seen operationally These several ratings can then be collated into overall estimates of these characteristics Naturalistic research provides particularly good opportunities for such a procedure, as behavioral patterns can usually be studied over a period of time and behavior observed innumerable times.

Although this procedure is considerably more cumbersome than the single rating method, it should provide more valid data What is being rated each time is more precisely in focus and narrower in scope than with general ratings Furthermore, variability of behavior from situation to situation can be more readily ascertained

5 *Forced-choice scales* should be used whenever possible to minimize the distorting tendencies of ordinary rating scales Instead of representing a variable continuum, the forced-choice item consists of two or more alternative responses which are similar in "social acceptability" or "attractiveness" but different in how well they predict the overall qualities being rated

Development of such a scale requires administering a large number of statements related to the qualities to be rated, to see which ones actually discriminate on a criterion measure. For example, in constructing a scale for senior grade military officers to use in ranking their subordinates various descriptive phrases would be tested out empirically to see which ones discriminate between good and poor officers as identified by some other measure. Also, through empirical tryouts the preference value (that is, social acceptability) of each descriptive phrase would be determined Finally, the scale would be put together of items each of which contained responses that were alike in preference value but unlike in relationship to the criterion measures.

A typical item might ask the rater to check the two qualities that are most descriptive of the ratee for example,

(a) _____ commands respect
(b) _____ cool headed
(c) _____ reserved
(d) _____ calculating

Individuals receiving the highest ratings would be those who were checked most often on phrases that had proved to be discriminative in terms of the original criterion measure

Although the construction of forced-choice scales is much more difficult than of ordinary scales and although raters sometimes resent having to use them presumably because they cannot determine preferred responses such scales probably do increase the validity of rating procedures and force raters to indicate their true feelings more often than do other procedures (Remmers, 1963 pp 341–343)

6 Another way to improve rating discrimination is to employ the nomi nating technique In this procedure the rater names the individuals in a group who demonstrate a given quality to the greatest or least extent Some times the number of people to be named is specified at other times it is not In either instance the validity of judgment made about human qualities is probably greater than with ordinary rating scales because of the rater's tendency to notice the exceptional more read ly than the average

The chief difficulty of nominating techniques is the unevenness of data collection with an abundance of information about some persons and a lack of data on others These techniques also present some problems in data quan tification since parametric statistical methods cannot usually be employed

7 If the group to be rated is small enough ranking can be used to produce discriminating judgments A complete ranking of individuals has the advan tage over nominating techniques of providing the same amount of data (that is a single judgment) on each individual Again nonparametric statistical methods must be used however

8 For larger groups a promising rating ranking procedure is provided by Q methodology (see Chapter 5 for discussion of Q methodology) The names of individuals can be put on cards and the cards sorted into a distribution approximating the normal curve and minimizing the response sets found in ordinary ratings [5] If a hundred individuals were to comprise the group three piles might be made during the first sorting of the cards categorized as fol lows pile A those who seem to possess good study habits pile B those who do not and pile C those whose study habits seem to be neither bad nor

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[5] If the population of persons to be sorted is not considered sufficiently hetero geneous or cannot be assumed to be normally distributed with respect to the trait in question other distributions of cards assumed to be more appropriate should be used

good See Figure 49 On a subsequent sorting of pile A alone, the two persons with the best study habits would be selected next, and then the second best group made up of four persons The remaining persons from pile A would be placed in the third best category and fourth best category, if needed to complete sorting pile A Next, pile B would be sorted in similar fashion, starting with categories at the extreme opposite end of the distribution Finally, pile C would be sorted into the remaining middle categories according to the number required for each Figure 49 shows the number of individuals who could be placed in each of the 11 categories along the scale

| Number of Cards | 2 | 4 | 8 | 12 | 15 | 18 | 15 | 12 | 8 | 4 | 2 |
| Pile Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

WORST   BEST
STUDY   STUDY
HABITS   HABITS
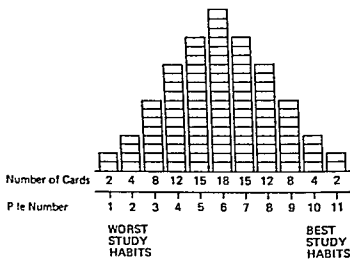
FIGURE 49   DISTRIBUTION OF THE NAMES OF INDIVIDUALS RANKED IN NORMAL
CURVE FASHION ACCORDING TO THE JUDGED QUALITY OF THEIR
STUDY HABITS

Following completion of this procedure, each individual would have a rating (for example, 1–11 with this number of categories) on the characteristic in question Although this sorting procedure may take as much as an hour when so many individuals are involved, it generally provides more valid information than most rating scales Furthermore, because the distribution is approximately normal, parametric statistics can be used Correlations of various traits rated in this fashion or even in other ways, can be readily computed

The time taken to complete a sorting is not really extensive, compared with that for testing the trait or even using a regular rating procedure Furthermore, it takes less and less time as the group to be sorted and the number of categories to be used decreases The latter must be reduced somewhat as the size of the group being rated lessens, in order to maintain an approximately

normal distribution Thus, for 60 persons, only 7 categories are probably appropriate

Perhaps the biggest drawback to using the Q-sort in rating individuals is the need for the person doing the rating to know the entire group well enough to do the rating in the first place Even this limitation does not seem too serious, however, when one realizes that high school teachers, plant supervisors, and many other institutional personnel deal with a hundred or more persons regularly in a rather intensive manner

Forced-choice ratings nominations and rankings need not take the forms illustrated above, in which the names of persons are distributed The population and other human qualities In their River City study, for example Havighurst and his colleagues (1962, pp 177–178) developed a ten item 'Behavior Description Chart' on which each child was to be rated by his teacher The following example shows the type of rating to be made, on which the statements that are *most like* and *least like* the particular child are to be selected

A Other people find it hard to get along with him
B Is usually willing to go along with the group
C Is very shy
D Other people are eager to be near him or on his side
E Interested in other people's opinions and activities

Each item contains behavior descriptions related to aggressiveness (A), with drawal (C), leadership (D), and social adjustment (B, E) [6] A youngster s score on aggressiveness consisted of the number of times out of the ten items he was chosen as *most like* the aggression related alternative minus the number of times he was chosen as *least like* this alternative

A review of rating procedures more extensive than that presented above is outside the scope of this volume A vast literature already exists on rating scales and techniques and the researcher intending to use these procedures is directed to such comprehensive treatises as Guilford (1954), Harris (1960), Remmers (1963), Kerlinger (1964), and Shaw and Wright (1967) The present digest has been designed only to highlight some of the most relevant considerations regarding their use in naturalistic studies Admittedly, a bias is reflected against the utility of ordinary rating procedures and toward the use of techniques that either focus on limited behavioral tendencies or force discriminating judgments to be made by the rater

Extensive use of ratings in behavioral research will be doubtlessly con

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[6] Not scored in their study, as the investigators used social adjustment descriptions mainly as decoys for the other alternatives

tinued as other acceptable measures of many human characteristics are difficult to find or develop They will provide valid information only to the extent that they are developed and used carefully, appropriately, and even imaginatively With proper attention to the various considerations already indicated they can become powerful research tools for the naturalistic observer

OTHER OBSERVATIONAL
DIMENSIONS

Not only is there variety in the types of data instrumentation to be considered in naturalistic research but also in units of measurement, sampling procedures and certain other important observational dimensions Decisions must be reached regarding both the kinds of data needed and specific procedures for obtaining them Because of the multiplicity of variables operating simultaneously and interactionally in everyday life, general izations regarding naturalistic research as well as laboratory research will depend heavily on these decisions

As Wright (1967, p 24) points out

Actions differ greatly in kind and they have a multiplicity of dimensions
Actions vary in energy level tempo efficiency persistence, manifest affectivity, in level of satisfaction or dissatisfaction, and emotional quality Actions differ also in outcome

As Wright indicates the dimensions that can be observed are too numerous to list except illustratively Selection depends first therefore, on the nature of the problem and the underlying theoretical framework. It depends especially on the hypotheses to be tested and the specific relationship one seeks to examine The choice of data type and a specific coding system rating scheme or narrative content to be included comes next Decisions must be made with respect to what specifically is to be observed and where and when Out of the mass of ongoing activity, behavioral units must be identified which are relevant to the dimensions under investigation Similarly, situational features to be noted out of the many available must be clearly distinguished and inserted into the rating or coding scheme

A naive notion is rather widely endorsed that observational data depend primarily on the nature of the event being observed This is only partly true The naturalistic researcher must carefully determine what it is he is to perceive and usually he must field test his proposed observation scheme prior to the time it is to be used to see how well it works and to perfect it if necessary As Weick (1968 p 380) states this notion the researcher needs to find out if the variables he has chosen are plausible response meas-

sures within the setting, discriminable from other behaviors easy to observe and score compatible with other measures defensible in terms of psychometric canons sensitive to variations in the independent variables and valid indicators of psychological processes" Considerable trial and modification of his preliminary scheme may be necessary before he is able to obtain the kinds of data he truly seeks or perhaps even before he chooses the most promising variables and establishes the best hypotheses

In attempting to explore the characteristics of a new area it is appropriate to derive hypotheses and examine hunches in such exploratory fashion until key variables almost identify themselves One reason that laboratory experiments, on the other hand often seem trivial is that the researcher defines variables in relation to the experimental situation and not to what might be called the natural or socially significant dimensions of the problem

The definition of behavioral units is an especially critical aspect of this process. A behavioral unit is often defined in terms of a total typology of action The most simple illustration would be that either the action being observed is or is *not* an instance of the particular behavior under consideration At a given moment for example a person is either talking or not talking Of course there are various types of talking and the typology may specify several such types (for example asking a question stating an opinion agreeing etc)

Specific behaviors have beginning and ending points with other behaviors preceding and succeeding them Definition of behavioral units must specify these terminal points, so that it is clear when to stop recording one behavior and when to start noting another In classifying talking behavior for example each sentence may be selected arbitrarily as a behavioral unit Sometimes an event or a setting such as "passing the Salvation Army bucket or "going home from work may serve to identify when behavior is to be observed (example "contributing or not contributing and going with someone or "by oneself") Quite often time is used to define the limits of the behavioral unit such as a given 10-second interval

In brief the units selected must permit behaviors pertinent to the purposes of the investigation to be discriminated clearly from other behaviors so that they can be sorted and counted and ultimately related to the other variables under study Further consideration of observational dimensions is presented below

Molarity

Decisions have to be made with respect to the *molarity dimension* (the size of the behavior unit) "Selling magazines is a much larger behavior unit than "refusing to answer a question which in turn is a larger unit than "blinking one's eyes Although naturalistic research can be con

ducted on behavioral units of many different sizes, it is generally desirable to collect data of approximately the same unit size for any given analysis For example, in Sears' and Sherman's (1964) framework for point-sampling children's classroom behavior (pp 98–100 of this volume), the "social task-oriented category is roughly equal in molarity to the "social friendly' and other categories they used, rather than being divided into several possible submolar or molecular categories like "answered question about school work" and "asked question about work" Not only with coding schemes, furthermore, but with ratings and narrative data as well there should be consistency in the size of behavior acts sampled Of course it is possible to have several molarity sizes represented in a comprehensive research project, but generally not within the same research variable

Molar behavior or *actions* can be distinguished from molecular behavior or *actones* in three ways (Wright, 1967, pp 12–17)

1 *Actions* involve the person as a whole within a total environmental context, whereas *actones* represent engagement of subordinate parts or internal mechanisms of the individual Thus, "buying candy at the grocery store" would be considered molar behavior, and 'smacking his lips" or "twisting the wrapper' while he was doing so would be considered molecular behavior

2 Actions are goal directed, that is, "getting to or from a part of the molar environment" For example, "a child goes from home to school, from bid ding for attention to getting it, from 9×43 to 387 Each of these be havior units is an action and, as such, each entails a particular directional change in the position of the person

3 Molar behavior tends to occur within the cognitive field of the person behaving He knows, within limits, what he is doing Molecular behavior, on the other hand, tends to function at low levels of awareness, often in the form of conditioned responses or autonomic reactions Molecular behavior prescribes how molar behavior is carried out

Unfortunately, behavioral science has no taxonomy of actions, nor is it able to name all properties, kinds, or dimensions of molar behavior Obviously, variation exists even in the size of action units, with some related to long term goals (for example, "attends college") and others being only small molar parts of larger actions (for example, "does an assignment")

No clear-cut standards have been established for determining the size of behavioral units to be measured These seem to vary primarily with the pur poses of the investigation and the specification of variables to be studied

Also relevant to this determination are reliability and validity requirements, which tend to function in opposition to each other Objectivity and reliability can be best enhanced, usually, by focusing on small bits of behavior that can be precisely defined, readily observed, and easily recorded Yet, in doing so,

Other Observational Dimensions

one often restricts the full range of phenomena one is attempting to investi gate, and thereby lessens considerable validity If one were to list ten specific types of cooperative behavior that could be measured objectively for example, whereas the actual universe of possible behaviors numbered several dozen, important aspects of cooperativeness would obviously be neglected What would actually be measured might be relatively trivial with respect to the overall variable (Kerlinger, 1964, pp 509–510)

Despite the wide variation in the size of units and problems encountered in specifying behavior to be measured the basic distinction between actions and actones seems sound and should help investigators prescribe measurement units and resolve these problems in accordance with their overall research objectives

Time Unit

A second behavioral dimension to be considered in research plan ning is the *time unit*, that is, how long a period a single observation covers In the Sears and Sherman (1964) study, the time unit was only a fraction of a second—the instant a given child was observed in scanning first one child and then another In the Flanders (1960) study classroom behavior was classified every 3 seconds Using a modification of both the Flanders and Sears classifications, Perkins (1964) watched individual children for 2 min ute periods, by holding a pencil on a slow moving tape, he was able to keep an exact record to the nearest second of the time a youngster engaged in particular types of behavior throughout that period Time was entered to the closest 5 minute interval on the nursery school class activity log described earlier (see pp 105–107) In short, the duration of behavioral acts is a dimension of considerable importance

Time measurement is accomplished in a variety of ways With anecdotal recording only a crude attempt is made to note the beginning and end of behavioral episodes The frequency and duration of intra-episodal within episodes are seldom noted although the sequence of intra-episodal behaviors is kept intact For example Bijou et al (1968 p 178) list the behaviors in the order of events in the beginning and termination times and preserved the order of events in the manner indicated on pp 132–133

In using action checklists and in quantifying narrative data transcribed electronically, where behavior sequence and duration are transcribed auto matically with the running of the machine, two styles of recording time are possible One consists of logging the occurrence of responses as they are made and often their durations as well Tallying every instance of a book keeper looking up from his work during a 5 minute period exemplifies this style, as does starting and stopping a cumulative stopwatch in order to record the total duration of his 'looking up behavior The other style consists of

Time	Antecedent Event	Response	Consequent Social Event
9 14		1 T throws bucket and shovel into corner of sandbox	
		2 stands up	
		3 walks over to monkeybars and stops	
		4 turns toward teacher	
		5 says "Mrs Simpson watch me"	
			6 Mrs S turns toward Timmy
	6 Mrs S turns toward Timmy	7 T climbs to top of apparatus	
		8 looks toward teacher	
		9 says, "Look how high I am I'm higher than anybody"	
9 16			10 Mrs S says "That's good, Tim You're getting quite good at that."
	10 Mrs S turns "That's good Tim You're getting quite good at that."	11 T climbs down	
		12 runs over to tree	
		13 says "Watch me climb the tree Mrs Simpson"	
			14 Mrs S turns and walks toward classroom

Time	Antecedent Event	Response	Consequent Social Event
	14 Mrs S turns and walks toward class room	15 T stands, looking toward Mrs S	
9 18	16 Girl nearby trips and falls bumping knee		
	17 Girl cries		
		18 T proceeds to sandbox	
		19 picks up bucket and shovel	
		20 resumes play with sand	

registering the occurrence or nonoccurrence of behaviors during a predeter-mined time interval Grieger (1970) watched a child for 10 seconds and then circled the symbols representing those behaviors that he had observed during this period, before observing for another 10 seconds. Using an auto-matic beeping mechanism to notify them of time intervals, Medley et al (1971) designed their PROSE schedule for observing a host of classroom variables every 25 seconds Brown (1968) constructed a 62 item list of teacher behaviors that an observer could watch for over a considerably larger time interval, usually 30 minutes, before checking those he had seen

With the use of watches and stopwatches mechanical and electronic counting devices, and appropriately designed forms it is possible to monitor and record time dimensions of human behavior with high precision It is almost essential furthermore—if naturalistic data are to fulfill their potential mission as accurate descriptors—for a time base to be prescribed and adhered to in the collection of data Answering the ques-tion of how often something occurs in nature is almost the most fundamental reason for conducting naturalistic studies, and such estimates of rate can be generated only if a careful time base is measured

Setting

Individual and group behavior is seldom interpretable without reference to its context The conditions under which behavior occurs are almost always prime shapers of that behavior The nature of those conditions,

therefore, must be included in the data collection in almost any study of human behavior Depending on the problem being studied, specific setting variables need to be identified, measured, and recorded

Barker (1968) produced the definitive work on the attributes and proper ties of behavior settings They consist of (1) *standing patterns of behavior* of people, en masse, such as a football game or church service; and (2) *milieu*, the particular complex of nonbehavioral phenomena around which the standing patterns take shape

The milieu of the setting "4-H Club Meeting" is a constellation of a par ticular room in a particular residence at a particular time with particular objects distributed in a particular pattern The milieu of a behavior setting exists independently of the standing pattern of behavior and independently of anyone's perception of the setting Between sessions, and when no one is thinking about it (that is, when the behavior setting "4-H Club Meeting" is nonexistent), its constitution, minute book, roll of members, meeting place, gavel, printed program, etc., are in existence (Barker, 1968, p 19)

Setting information that needs to be recorded identifies the standing patterns and milieu characteristics that underlie and make understandable whatever behaviors are being studied Particular features to be noted usually include some description of the general activity in progress at the time of the observation the time and location of the setting the number and type of persons present, specific rules in operation, explicit expectancies to be faced and materials or equipment being used

Quite often, particular setting attributes constitute the main independent variables of the investigation, and their accurate, routine measurement is mandatory For example, a school principal (Lafley, 1966) was interested in determining the extent of relationship between weather conditions and children's use of the playground in contrast to their staying in a small, inside passageway before the morning school bell rang He measured the major setting variables by recording the temperature and general weather conditions (sunny, cloudy, winds, rain or snow) every morning Behavior noted was a mere count of the children on the playground and in the passageway Not particularly startling in its findings or implications, this simple study of behavior change in differing settings (weather conditions) produced suffi ciently solid information about the degree of comfort-discomfort of the children to cause the school authorities to reconsider the reasonableness of certain school rules and ultimately to alter them in line with pupil needs Planning naturalistic research, therefore, should include careful attention to those setting variables that are most relevant to the overall purposes of the research Once they are specified, they can be measured routinely with some form of static descriptor checklist

Objectivity

A fourth important dimension of observation data is their objectivity, the amount of inference required of the observer As indicated in Chapter 3, the reporting of the anthropologist and psychoanalyst is often mostly interpretive in contrast to the well written descriptive report of an objective reporter Similarly checklists tend to be less subjective than most ratings Yet, within these various data types considerable variation exists along the subjective-objective dimension

Kerlinger (1964, p 510) pointed out that observation systems with low degrees of observer inference are rare and perhaps not so useful as those requiring higher degrees of inference The degree of inference depends in great part on the problem under study and the purposes of the investigation

Many naturalistic studies reported in this volume tend to illustrate the advantages of systems low in inference and high in objectivity when one is investigating limited kinds of behavior in particular institutional settings Accurate recording can be obtained with minimal observer training as long as the system is not too complex and resultant descriptive data are highly convincing among operational personnel They can probably accept the accuracy of data to a greater extent when they see phenomena stated and measured behaviorally than when they see relatively ambiguous terms employed which are subject to different interpretations If specific behavioral categories are established at the onset of a research study to test particular hypotheses regarding institutional operations (see Chapter 3) considerable faith can be placed in resultant data

Complexity

Variation also occurs in the complexity of observational data The relatively simple seven-category system used by Sears and Sherman (1964) to point-sample pupil behavior was expanded by Perkins (1969) to include a modified Flanders system (1970) for coding simultaneously and in ongoing fashion both teacher and pupil behavior by utilizing pairs of observers and Bales (1950) interaction recorders Similarly, the four variable interaction system with a total of only 12 categories which was used in the Bank Street study (Minuchin et al , 1969), can be contrasted with a highly complex system with 171 categories developed by Moustakas, Sigel, and Schalock (1956) for studying adult-child interactions The complexity of data depends on several other factors, of course, including the number and training of observers and the kind of special recording equipment, if any, that is being used More will be said about these factors in Chapter 9

DESIGN CONSIDERATIONS

In general statistical and design aspects of naturalistic research follow patterns established for other types of research, and no attempt will be made to treat them fully here For coverage of these topics, students should turn to standard research design textbooks such as Fox (1969) and Kerlinger (1964) Fox does an outstanding job of describing various kinds of content analysis for narrative data and of relating statistical tools to classification processes Comprehensive summaries of the types of design considerations to be taken into account and the varieties of statistical techniques that might be employed are provided by Tatsuoka and Tiedeman (1963) and Campbell and Stanley (1963) The former reference is particularly useful in relating the repertoire of available statistical techniques according to the kind of scales used in the measurement of dependent and independent variables [7] With one-ordinal-dependent variable and one-ordinal independent variable for example two appropriate techniques are listed (Spearman's and Kendall's rank correlation coefficients), whereas for one-ordinal-dependent variable and two-nominal independent variables Friedman's two-way analysis of variance is recommended (refer to Tatsuoka and Tiedeman, 1963, pp 154–166)

The category systems that comprise many of the checklists described earlier represent nominal scales in which no particular order is attached to the scales from one category to another In other checklists, categories are ranked in some order of diminishing or increasing value for the dimension in question, and data are of the ordinal-scale type Naturalistic data tend to represent these two types of scales more often than interval or ratio scales, therefore necessitating the use of nonparametric statistical techniques Siegel (1956) presents an extensive collection and review of such techniques

Discrete and Continuous Variables

Naturalistic research variables are of two kinds, *discrete* and *continuous* The basic distinction is whether a variable can be classified or measured only in whole units (discrete) or whether fractional units (continuous) are also possible The number of students in a school cars in a parking lot or swimming pools in a town are all discrete variables because each item exists only as a unit Fractional persons cars or pools do not exist in any mean

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[7] Dependent variables are ones which are treated as being consequent upon changes in one or more other variables The latter are called independent variables (English and English, 1958)

ingful sense—only the entities The units of continuous variables, on the other hand, can be divided into infinitely small fractions For example, height, weight, age, cooperativeness, or intelligence can be broken down into as small units (including fractional units) as measurement devices permit, such as 5¾ feet, 134⅝ pounds, 43½ years, 97 2 percent cooperative, or 108 IQ Continuous variables always have a quantitative aspect to them, that is, they represent a continuing progression from the smallest to the largest possible amount of the variable, and it is theoretically possible to measure any point along this continuum Discrete variables on the other hand, sometimes have quantitative features such as the number of employees in a company, but at other times are only of a qualitative nature, as with sex or occupation (Fox, 1969)

Ordinary rating scales are usually based on continuous variables, as they require individuals to be assigned to some place along a continuum according to the degree they exhibit the characteristic in question Performance data, such as the distance that track athletes broad jump or put the shot, are often of the continuous type also as are various discrete event records and stand ardized situation responses when *time* is the primary variable measured

Most *static descriptors* and *action checklists*, however, consist of discrete variables, in which qualitatively different types of behavior, events, settings, or individuals represent the major dimensions under investigation

Fox (1969, p 140) distinguishes four levels of discrete variables (1) *dichotomous*, in which only 2 categories prevail, such as 'contributes or does not contribute" to Salvation Army bucket (2) *limited category*, in which 3 to 6 categories of response prevail, such as marital status (single, engaged, married, separated, divorced, or widowed) (3) *multiple category*, consisting of 7 to 20 categories of response and (4) *infinite category*, in which upwards of 20 gradations of response are used Many action check lists, in which an observer tallies every instance he sees of an individual exhibiting a particular kind of behavior, illustrate the use of a dichotomous variable The particular behavior either occurs or does not occur during a particular time interval or in a particular situation Many behavior modifi cation studies are based on this type of data, in which the frequency of occurrence of a particular type of behavior is the only variable under in vestigation

In various comparative studies, however, two or more discrete variables are included For example, in determining whether men tend to contribute to the Salvation Army bucket more than women, two variables need to be coded each time a person passes by the bucket contributing behavior and sex of the pedestrian involved

The primary process involved in obtaining discrete variable data is classi fication For each observation the researcher makes, he classifies what he

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The primary process involved in obtaining discrete variable data is classi fication For each observation the researcher makes, he classifies what he

sees into one or more sets of categories If more than one discrete variable is involved, of course, he makes a separate classification for each variable His tallies or time notations can later be added up to let him know the frequency of occurrence of each category

Fox (1969, pp 142–144) indicates the desirability of four properties in category sets homogeneity, inclusiveness, usefulness, and mutual exclusiveness *Homogeneity* refers to all categories bearing a logical relationship to the variable under consideration and to each other In the Sears' set of categories (see pp 98, 100 of this volume) for classifying pupils' classroom work-oriented behavior, it would not be appropriate to include a category, 'fighting on the playground"

Inclusiveness refers to the total set of categories covering all possible behaviors so that every observation is classifiable Quite often a "miscellaneous," or "all others," category needs to be added to the set in order for every observation to be classified If more than 10 percent of the responses turn up in this latter category, however, Fox (1969, p 143) suggests the need for further specification of categories

The characteristic *usefulness* means that each category serves a function in relation to the basic purposes of the investigation If the questions one wants to answer in a given study are well thought out, relevant categories will be established that will permit the necessary data to be collected It is unnecessary to have a more discriminating set of categories than will be used in reporting and interpreting the findings The more complex the category system, furthermore, the more difficult it generally is to gather data and achieve reliability

Mutual exclusiveness is the fourth important characteristic of a set of categories It means that each category refers to one unique dimension of the variable so that one observation can be classified into one and only one category For example, in the Sears' system (1963), a child talking to another child must be categorized as either 'social work-oriented' or 'social friendly," not both

Narrative data are usually coded into categories relevant to the purposes of the investigation in much the same way as action checklist responses The main difference in processing the two types of data is that narrative data are coded a posteriori, whereas checklist data are coded a priori It is also possible to quantify narrative data by using rating scales and obtaining continuous data

Sampling

Except perhaps during the initial, heuristic stages of naturalistic research, when one is still exploring the data possibilities inherent in a given situation the sampling of persons, situations, events, and behavioral units to be

observed is of eminent importance.[8] As with other types of data, field observations must be made in such a manner as to permit reasonable estimates of the larger population of behaviors and events that they are presumed to represent Observations can only be considered representative, furthermore, if they are made in some systematic fashion or according to a pre planned schedule that allows for random selection of the actual behaviors observed

It is especially important to build into naturalistic research designs a sufficient sampling of key situational variables to know how far findings can be generalized One might reasonably assume that if both personal and situational factors were the same from one time to the next, behavior itself would be the same also Naturalistic research merely indicates what the behavior of particular individuals consists of in precise fashion under certain specific conditions It is necessary, therefore, both to identify relevant personal and situational factors around which behavior is likely to vary and to sample these sufficiently The power to draw conclusions from naturalistic research depends heavily on how adequately the potentially influential factors are measured and sampled Designs therefore should detail ahead of time the exact timing and number of observations to be made under certain specified conditions If purchasing in liquor stores, for example, is the behavior being studied, a schedule of observations should be developed ahead of time to take into account such factors as the time of day, sex, and perhaps age of purchaser, location of stores, etc Such designs, of course, mean that naturalistic research typically embraces several variables, including the primary behavioral patterns being observed thus multivariate procedures are useful for analysis of results Sampling errors can be minimized only by making a sufficient number of observations of each of the important conditions to permit solid multivariate analysis With cautious attention to sampling considerations, naturalistic studies can achieve at least the same degree of generalizing power as do well-designed experimental studies of similar scope

In addition to situation specification and sampling behavior sampling is ordinarily accomplished in two ways by *event sampling* and by *time sampling* With the first of these, it is necessary to identify clearly the class of events to be studied, and either know when they are to occur, so that one can arrange to be present, or be able to recognize them immediately whenever they do happen to occur in one's presence Temper tantrums, for example, happen at irregular intervals, so an investigator who studies them must have them defined precisely enough to distinguish them from other behaviors and begin recording immediately whenever they do take place

[8] Sampling may not be so critical in specimen description where an attempt is made to record *all* behavior continuously once the target, time, and general setting have been chosen

A primary virtue of event sampling in naturalistic research is the economy of observer time spent collecting data Many events occur so infrequently that ordinary time sampling would not permit them to be observed very often because the dross rate of irrelevant material would be too high Careful specification of the events to be observed and a system for recording them when ever they do occur free the observer at all other times for other duties

A variation of event sampling was devised by Flanagan (1949), which he labeled the "Critical Incident Technique" Specific behaviors that are considered favorable or unfavorable for a given purpose are described so that they can be clearly recognized when they occur Then the operator, in contact with the person over a considerable time period (say, two or three weeks), is instructed to record and cite relevant details of each instance of occurrence An office supervisor might keep a record, for example, of all actions that have been defined as *characteristic* of good and poor work performance

In time sampling, behavior samples are chosen either systematically or at random from a defined time universe, in order to be representative of a population of behavioral units larger than that of those observed Attempting to assess the impact of a safety campaign on machine operators' work patterns, for example, an industrial engineer would be likely to (1) choose a time interval appropriate for measuring segments of work behavior related to this problem (say, 5 minutes), (2) select a random sample of workers to observe in order to be able to generalize his findings to all machine operators in the factory, and (3) select either on a systematic basis (such as 5 minutes every hour on the hour for three successive days) or randomly from all 5 minute intervals over the three-day period in order to generalize his findings over that long a time period Data would be collected according to this schedule prior to the safety campaign and again afterward

Time samples assure the investigator that his data are representative of a larger behavioral universe, but only for behaviors that occur frequently Those that do *not*, such as temper tantrums, are unlikely to be seen during the predetermined time intervals For sampling errors to be minimized in later statistical analysis, many repeated observations are necessary of whatever behavior is studied

Time samples lack the continuity, contextual completeness, and perhaps naturalness of event samples, yet they seem absolutely necessary if one is to be able to generalize about a larger universe of behavior and provide observational norms Few field observations can be studied over their full duration, yet it is necessary for purely descriptive purposes alone to gather sufficient data to be able to generalize to the overall nature of these operations, not just to isolated parts of them, which may or may not be typical

To summarize, then, obtaining a representative picture of human behavior requires observational sampling of people, events, time, situations, and

behavioral units The particular type of sampling determines the generalizability of findings

An illustration of excellent sampling procedures was provided by Page (1958) in his investigation of the effects on subsequent classroom test performance of differing kinds of instructor comments written on tests taken earlier This example of a contrived situation study with unobtrusive activity on the part of the investigator is described in digest form in Chapter 8 The 74 teachers were randomly selected from 12 school systems and across 6 grades and a variety of subjects Pupils representative of each of five performance levels (A B, C, D, F) on the initial test were assigned to the treatment groups by rolling a specially marked die Although time sampling was not necessary in this particular study other relevant variables were so adequately sampled that overall findings were highly generalizable

Reliability

In observational measurement several kinds of reliability need to be recognized and taken into account in the design of studies One has already been mentioned, namely, the objectivity of data as revealed by the amount of interobserver agreement in records of the same behavior Lack of agreement may reflect insufficient training of the observers ambiguous identification of characteristics to be rated or described indistinguishable or overlapping categories, or observations made at somewhat different moments in time The attention to each of these qualities must be consistent among all observers

A second kind of reliability has to do with the inconsistencies of a single observer from one moment to another If he is bored or alert, his observations of the same phenomena may differ at different times Estimates of the degree of consistency of an observer can be made by having him view and code or rate at different times exactly the same behavior (usually from an audio- or video-tape transcription)

A third kind of reliability has to do with the variability of the trait itself Much human behavior is highly variable from one time to the next, one situation to another The only way to determine just how variable particular behavioral traits are is to collect a considerable amount of observational data of the same traits and calculate the degree of similarity-dissimilarity over varying types of settings and time periods Resulting correlation coefficients are often referred to as *stability coefficients*

In the P S Sears (1963) study of elementary school pupils' classroom behavior, data were obtained and two reliability estimates were made Agreement between observers was determined by having two observers categorize the same pupil's behavior at the same instant in time The resulting value of

change To the extent that the observer's presence can be thoroughly or even partially disguised, it is worth the effort

If the observer's presence cannot be disguised, several steps may be taken to minimize his influence First, considerable *time* should be allowed for him to become a routine fixture before serious observations are made, remaining unobtrusively in the background as much as possible Second, plausible reasons can often be stated for his presence and a *general* explanation given of what he will be doing while he is there Third, the *specific* and *complete* nature of the data to be obtained *should not be made explicit* Those procedures should be stressed that are least likely to threaten people and most likely to put them at ease

The ethics of hiding some of the details of what one is about were discussed in Chapter 2 In brief, it might be restated here that if studying natural behavior is an important research task, then it must be done in ways that permit the gathering of reasonably valid data, otherwise, it should not be done at all How individuals are protected during the data analyzing and reporting stages would seem to determine the extent to which the research is carried out in an ethical fashion

Two doctoral investigators (Lamb, 1962, McKinstry, 1962) spent several weeks in two fifth-grade classrooms with Bales (1950) interaction recorders After being introduced to these classes as university students who were interested in finding out and keeping a record of some of the things fifth-grade classes do, students were invited to examine their machines and to see the way in which lines were made on the slow moving tape to record how long certain things went on, such as the teacher telling a story' After the first morning in which pupils asked questions about their presence, most of which could be answered directly without revealing specific behavior categories to be used or even the fact that *individual pupils'* behavior would be watched (what activities the class engaged in being stressed), the investigators discovered that on subsequent days they were ignored by all but a few pupils, and even from these they received only a glance now and then The nature of ongoing classroom events seemed to cause youngsters to forget their presence most of the time Only occasionally did a youngster glance in their directions Comparison of data from the first few observations with those taken weeks later showed little difference, adding credence to the notion that the observer's influence was minimal

It should be added that to keep this influence minimal, the observers learned quickly to use peripheral vision for watching a given individual over a minute's duration so as not to draw his attention by staring at him Through this practice and by letting their eyes roam broadly during the intervals between observations, they were able to keep youngsters from realizing how closely they were being watched The use of dark glasses to keep

people from seeing their eyes might have made their task easier, although satisfactory explanations for these glasses might also have been necessary

As observers, these investigators also lessened potential influence on the children by remaining as aloof as possible without being offensive They tried to leave the room during break periods on the pretense of getting materials (tape for machines etc), so as not to be trapped into mutual glances or smiles with the children and generally to remain an uninteresting part of the classroom background If they were ever questioned about their opinion about some classroom event they tried to hedge their answers and never stated an opinion of their own In summary, it would seem that the effect of observers can be relatively negligible if they take such precautions as those indicated above

SUMMARY

In this chapter, the nature of observational information is examined in some detail The observer has many decisions to make regarding both types of data to seek and procedures for obtaining them with maximal validity With cameras tape recorders and other special equipment, he can attempt complete recordings of all that goes on in a given sequence of events with post-scaling of such recorded data to follow or he can use checklists and rating systems for recording observations directly in precoded form Various measurement dimensions for observational data are also discussed The need is stressed for careful consideration of sampling factors including personal and situational variables along with primary behavioral variables Reliability and validity are examined along with procedures for minimizing possible observer effects The position is stated that ordinary behavior tends to prevail when the observer is trusted and blends into the behavior setting

In the next chapter, types of data other than those obtained from observation will be discussed as they are used in naturalistic study

TESTS

The Standing Committee on Test Standards of the British Psychological Society has described a test recently as 'any standardized device from which an objective quantitative score is derived' (Gathercole, 1968 p 83) Three different types of devices are included, according to this committee (1) tests of attainment, (2) psychological tests of cognitive abilities, special aptitudes, interests, or orectic functions, and (c) clinical instruments or quasi test devices which are used for individual diagnosis even though they do not always yield an objective score (Standing Committee, British Psychological Society, 1965) An official statement of the American Psychological Association (1966 p 9), on the other hand, suggests that devices utilizing self report means for identifying interests and personality traits should not have the word 'test' in their titles

Despite these attempts at precise definition the term *test* covers a wide range of instrumentation Tests vary in many ways, including (1) content, that is, traits being evaluated (2) form, that is group vs individual test formats and oral vs written responses, (3) degree of structure and (4) degree of objectivity

Although some types of tests are more likely than others to be used in naturalistic study, it is possible for many tests to be inserted unobtrusively into ordinary activities in a disguised manner The advantage of disguised administration is the reduction from optimal performance of such affective detractors as test anxiety (Sarason, 1960) Only if tests are taken under varying degrees of stress, can one's full performance range be assessed Although the maturity indicator tasks described in Chapter 7, for example, require considerable structure and objectivity, they can be administered as a series of ordinary kindergarten activities Similarly, modern work life is so routinized that many persons perform certain tasks, such as typing a letter, over and over again in the course of their normal assignments A standardized typing test can easily be inserted into such routines without respondents even realizing they are taking a test

Another reason for administering tests as ordinary assignments is the need to determine typical rather than maximal performance A discrepancy often prevails between test behavior and regular performance Measures of both are needed Typical rather than maximal performance tests are difficult to administer outside the naturalistic situation (Lyman, 1963) The routines of many naturalistic situations, however, are often so standardized as to permit performance to be measured unobtrusively A standardized situation check list (Chapter 4 pp 108–110) is all that is necessary to accomplish sound assessment under such circumstances

Tests less highly structured than those mentioned above are more likely to be used in naturalistic study simply because they are less likely to arouse suspicion or alter ongoing activity to any substantial extent. The junior advertising executive assigned the task of constructing a less than ten-word humorous jingle on the virtues of a given product, students writing letters for their language arts teacher to similar students overseas describing themselves and their school, children making drawings of the most important event in their lives, a foreman explaining to employees in training how a particular manufacturing process works—all these persons may be taking tests without realizing it. The advertising jingle may be scored or rated for such characteristics as novelty and relevance; the letters for self-differentiation and verbal fluency (Minuchin et al 1969); the drawings for expression of fear and other emotions (England 1946) and a transcription of the foreman's explanation for understanding and articulation. If, in each instance, similar response-products are available for comparison with other persons doing the same assignment a major requirement of all tests has been met. A test is designed to provide a standard and known situation and to elicit certain kinds of responses. These responses, in turn are used to draw inferences about the person tested (E. L. Kelly 1967).

An illustration of the utility of open-ended devices appears in Sears and Sherman's study (1964 p. 36) cited earlier with respect to children's self esteem. Although it was administered as a test its real purpose was disguised by stating

> This is a test of how fast you can think. Complete each of the following sentences so that it makes the best sense possible. Since you are being timed work quickly. In most cases the best way to answer the test is to put down the first thing that comes to your mind. Work fast. Do not skip any sentences.

Actual items consisted of sentence stems with spaces for completing the sentences. The instrument was administered first in projective form (boys names were inserted as the subjects of sentences) and about three weeks later in direct form (the pronouns "I," "me," or "my" were used instead). The authors felt that open hostility and other socially unacceptable feelings were more likely to be expressed on the projective rather than the direct form. A copy of one boy's responses to selected items of those two forms of the test appears in Figure 5.1.

Scoring and interpretation of open-ended responses may be done in several ways. Qualitative judgments may be made by experts to the total response product attention to particular items or aspects of this product depending primarily on the bases of the expert and what he considers important. Wide variations in interpretation can be expected from this clinical inference method

Item No	Stem	Projective	Direct
4	For Richard (me), learning to be good in sports was—	fun	not much fun
5	Giving oral reports made Bob (me)—	very happy	very nervous
9	Talking to the other boys made Robert (me) feel—	happy all over	sort of different
14	For John (me), working in committees or groups seemed—	boring	I have fun
19	Ross (I) thought writing stories was a way to—	express ideas	get bad grades
28	Jerry (I) thought trying to keep his (my) mind on school work was—	hard to do	simple
31	Chuck (I) thought his (my) parents—	unfair	okay
37	When other people's ideas were different from his own (mine), Carl (I)—	was unhappy	like my idea best
38	When the teacher disagreed with him (me), Kim (I)—	didn't like it	feel I'm right
43	If Charles (I) only had a chance to say what he (I) thought, he'd (I'd)—	be lucky	like to say, I'd say it
47	Most of Bill's (my) attention in school was—	in recess	in arithmetic

FIGURE 5 1 COMPARISON OF SELECTED ITEM RESPONSES OF A SENTENCE COMPLETION TEST (FROM SEARS AND SHERMAN, 1964, p 38)

even among equally expert judges Various actuarial methods generally are superior to the clinical method alone and provide a more consistent basis for interpretation (Gathercole, 1968) Identifying listing and counting recurring behavior or thematic material, as with the case of Bob (see Chapter 6), illustrates one such procedure The main inferences are made only after

material is sifted and summarized in systematic fashion and with minimal interpretation

If rules and definitions are well established for scoring selected aspects of open-ended responses a high degree of consistency can be found among scorers Although Sears and Sherman recognized that subjective values were highly influential in interpreting responses to their sentence completion test, they found that groups of scorers achieved near-consensus in identifying positive and negative responses on many items Such classification of the item responses presented in Figure 5 1 reveals certain consistent patterns The respondent seems to express more negative connotations toward himself than toward the generalized other boy (that is, the projective response) with respect to "sports, oral reports talking to other boys and writing stories and more positive connotations with respect to "school work, parents, having different ideas or disagreeing with the teacher, saying what he thinks, and having most of his attention on arithmetic rather than recess' (Sears and Sherman, 1964, pp 38–39)

It is quite possible of course to achieve a relatively high degree of scoring objectivity to open-ended responses and still differ in final interpretation of what the scores mean In the case of need achievement,' two sets of investigators have each developed moderately objective, though quite different, measures of the trait only to have resulting correlations between these measures turn out to be near zero (E. L. Kelly, 1967, p 46)

The problem of drawing inferences from test data remains complicated At best, such inferences must take the form of hypotheses regarding the underlying feelings being expressed If the frequency of certain types of responses does not vary substantially from one test to another, one can be more confident of one's inferences than when they are based on only one test administration Thus, Sears and Sherman examined the discrepancies between two sets of responses, feeling that minimal differences indicated their subjects were probably not making a distinction between the two forms on the basis of social desirability They also compared their subjects with each other in terms of numbers of expressed negative attitudes Because the two forms were administered three weeks apart, they also held out the possibility that their subjects' feelings toward their teachers or toward sports or other pursuits were truly different from one time to the next One reason, therefore, for comparing test responses of several types and from various situations with other kinds of data is to increase the probability that inferences made in test interpretation are sound

Tests vary not only in whether they require the examinee to make a projective or direct response, but also in the degree of subjectivity required both in the scoring and interpreting processes Our preference regarding open-ended tests generally is for an objective scoring process, so that the

Nonobservational Instruments

bases for particular interpretations are readily apparent Even if final inter pretations differ, considerable agreement can at least be reached on what behavioral data exist Discussion of interpretation differences can then be more precise than without such agreement At the present time, the bases of many clinical judgments are hardly discernible to other scientists Research replication is profoundly more difficult than it is when some agreed upon scoring system has been used first

Tests of varying kinds especially in degree of objectivity, can be utilized by the naturalistic investigator to the extent that he can weave them into the intricacies of his research setting without undue disturbance Other tra ditional measurement devices can prove useful in similar fashion

QUESTIONNAIRES AND STRUCTURED PERSONALITY MEASURES

Behavioral science is replete with devices for questioning people about their personal feelings and reactions Literally thousands of person ality tests, self report inventories, attitude scales, interest measuring devices, and reaction questionnaires are available for subjects of almost any particular age group They provide a means for systematically sampling the subjective side of man and obtaining data in quantifiable form As with tests, norms can be established reliabilities determined, and various statistical com parisons made of one group with another and one instrument with another Buros' *Mental Measurement Yearbooks* are probably the most authoritative sources for assessing the quality of available instruments Among numerous other references, a recent book by Shaw and Wright (1967) presents a singularly comprehensive collection of attitude scales along with relevant reliability and validity information Almost two hundred scales are included, well organized according to attitude referent

Although some devices are much better standardized than others, some much more valid and reliable, some more useful and sound in an overall sense, subjective responses to paper and pencil instruments must be con sidered second-order data in relation to overt behavior On a questionnaire, one reports only what one did, would do, or how one feels How much this contributes to a completely authentic report is quite another matter

Reports of actions and reactions differ from actual behavior and feelings for numerous reasons A major factor underlying all subjective reports is the tendency to answer questions as the reporter believes they should be answered The socially desirable response is often made in place of the real one, a reflec tion of people's natural inclination to put their best foot forward This response set is especially operative, furthermore, when the respondent knows

that acceptance for a job or admission to a program is at stake or, *more generally*, whenever he realizes that his responses are likely to be used in evaluation of him Advice is even available on how to answer questions in ways that are supposed to enhance one's chances of being hired or accepted into particular programs

More subtle than conscious attempts to improve one's reputation are unconscious self-distortions that is the tendency to fool oneself The accuracy dimension of self report data has been found to vary extensively from individual to individual Some persons are prone to underestimate their strengths and overemphasize their weaknesses while others typically exhibit the opposite tendencies The accuracy of self report data varies also with the areas under question with social mores (for example that one should be modest in statements of accomplishments), and perhaps with overall self-esteem and self worth (Brandt, 1958)

Variations in the stability of self report data have also been found, with persons tending to respond somewhat in accordance with their mood at the moment (Brownfain, 1952) After a good night's sleep or a period when most experiences have been satisfying, one is likely to answer a questionnaire differently than when one is overly tired or frustrated (Dollard et al , 1939)

In addition to the distortion tendencies noted above, questionnaires and personality devices along with tests, suffer from honest differences in the interpretation of terms and the willingness of respondents to expend the time and thought to fill them out Because of this latter drawback, survey researchers have been using elaborate interview schedules more and more frequently in recent years, rather than questionnaires sent through the mail For example (Travers, 1964, p 297)

> The central difficulty in direct mail techniques is that the percentage of returns is small A questionnaire of some interest to the recipient may be expected to show only a 20 per cent return, even when conditions are favorable If nonrespondents are contacted a second and a third time, the return may be increased to 30 per cent Only rarely does it reach the 40 per cent level Attempts may then be made to contact personally the final group of nonrespondents, but if this is done, it might be as well to perform the entire operation by interview

The tendency to respond to questionnaires sent through the mail, furthermore varies considerably with such factors as the education of the respondent, so one cannot assume that respondents and nonrespondents come from the same population

Despite the many undeterminable biases, questionnaires and structured personality measures provide a useful means for tapping the personal, subjective side of psychological functioning in a systematic, quantifiable manner

With the appropriate instrument administered soundly, they can provide valuable information that is often unavailable otherwise Allport (1953) believes that when these methods are used with normal individuals, they are at least as productive and valid as more expensive and hard to interpret projective devices

The trick in using direct response instruments in naturalistic research lies in the reasons given to the respondent group for their administration Their underlying research purposes are often minimized in favor of indicating the institutional need for such information or otherwise relating them to routine though necessary activities Thus, Sears and Sherman (1964, p 36) disguised their self report questionnaire with a statement not inconsistent with classroom purposes "This is a test of how fast you can think"

In place of real research reasons, however, should be acceptable and convincing institutional reasons Office employees asked to fill out a personal data sheet that includes such sociometric questions as, "Who are your closest friends at work?" or "Whom do you have trouble getting along with?" are likely to be highly resentful unless they can be convinced that such information is essential for their effective assignment to work groups *and the encouragement of harmonious office arrangements* In addition, assurances must be given of confidential treatment of these kinds of data, and later evidence must show that the data have been used in work assignments and office arrangements Otherwise, employees are not likely to feel comfortable in filling out such personal reaction forms again

Quite often the questionnaires as well as tests and other structured devices can be best administered naturalistically by establishing a gamelike quality to their presentation and assuring the subjects that their fates will not be jeopardized by their responses Tests and questionnaires can be enjoyable to fill out if one has no fear of consequences contingent upon one's answers Taking a test for practice only or as a challenge "to see if it can be solved" may often stimulate the best of responses if one is assured that the result will not count on one's record Similarly, stating one's real feelings can be fun if one feels these statements will have no bearing on later treatment one might receive Administration of direct measuring instruments in this fashion consists of establishing sufficient rapport with subjects and providing enough reassurance about consequences to make subjects feel completely comfortable with the task

A careful wording of instructions, then, includes *acceptable* reasons for requesting a response, not always the primary reasons, indicates how results will be used often to the benefit of the responders and promises confidential treatment of the information forthcoming Quite often when the name of the respondent is unimportant, anonymity is requested as an extra stimulus to the revelation of true feelings Instructions for answering the questionnaire must overcome such natural tendencies as the feeling that one is boasting by

listing one's good qualities The validity of all direct measures is highly dependent on respondents being sold on the necessity for expressing their true feelings Administration procedures should be designed carefully to this end

Sometimes in spite of carefully prepared instructions factors operate to distort the expression of real feelings on a direct measurement device some so subtle as to go undetected Becker (1968) reported that medical students who disliked the psychiatric aspects of their training conspired (as a joke on the next class) to indicate on questionnaire items that they would have preferred more psychiatric emphasis in their program The mere length and complexity of some instruments is also sufficient to deter thoughtful accurate responses

To help the researcher or clinician discern the fake from the real some instruments contain a lie scale consisting of a few items that all serious respondents would answer in only one particular way or of some repeated items in slightly reworded form Items making up the L scale in the Children's Form of the Manifest Anxiety Scale appear in Figure 5 2. A "No" response to items 10 and 49 or a "Yes" response to the other items shown, indicates a tendency to falsify responses to the actual anxiety items making up this scale (Castaneda McCandless and Palermo 1956)

Although both selection and administration of structured instruments must be tailored to the situation and group undergoing investigation, some techniques and devices are more likely to elicit true feelings of respondents than will simple direct question asking Illustrations of approaches that would inherently seem more valid are discussed next

No	Item
5	I like everyone I know
10	I would rather win than lose in a game
17	I am always kind
21	I always have good manners
30	I am always good
34	I am always nice to everyone
36	I tell the truth every single time
41	I never get angry
47	I never say things I shouldn't
49	It is good to get high grades in school
52	I never lie

FIGURE 5 2 ITEMS MAKING UP THE L SCALE IN THE CHILDREN'S FORM OF THE MANIFEST ANXIETY SCALE (FROM McCANDLESS AND PALERMO, 1956)

Forced Choice Techniques

Respondents are required by forced-choice ratings to consider several rather than one attribute at a time, as with many traditional scales If the attributes are equally favorable or unfavorable, the social acceptability dimension is controlled and the respondent has difficulty biasing the score intentionally Presumably, he cannot discriminate between responses that predict the variable in question (that is, valid responses) and those that do not Actually, however, sophisticated respondents are occasionally able to distinguish between valid and nonvalid items (Highland and Berkshire, 1951)

For each of the pairs of attitude statements presented in Figure 5 3, it is difficult to discern the more socially acceptable alternative because the two statements are paired on the degree to which a substantial sample of parents expressed approval of them when they were administered as ordinary rating scales During this earlier instrument-construction stage, four types of parental attitudes were identified disciplinarian, indulgent, rejective, and protective The scale was then finalized by pairing items similar in social acceptability so that one alternative in each pair corresponded to one of the parental attitudes (Pumroy, 1966)

The very quality that makes forced-choice ratings superior to other ratings (that is, its greater subtlety) is sometimes its biggest drawback as rater resistance mounts over the difficulty of making judgments Scores resulting from comparison of two quite different traits, furthermore, are not always easy to interpret (Thorndike and Hagen, 1961, p 374) Overall, however, forced choice alternatives tend to provoke a more thoughtful judgment than do direct questions, in which the most acceptable response is often obvious

---

a Parents should watch their children all the time to keep them from getting hurt
b Children who always obey grow up to be the best adults
a Most parents are relieved when their children finally go to sleep
b Parents should hide dangerous objects from their children
a Good children are generally those who keep out of their parents way
b Parents should pick up their child's toys if he doesn't want to do it himself

---

FIGURE 5 3   SELECTED PAIRS OF ITEMS FROM THE MARYLAND PARENT ATTITUDE SURVEY (PUMROY, 1966)

In order to compensate for trait ambiguity many self report devices pose questions as behavioral choices in specific situations The use of precise behavioral language and the selection of lifelike situations to make such devices somewhat like actual situations (examples the simulation tests and the standardized situation checklists described in Chapter 4) is certainly to be recommended over general self report inventories

An illustration of such a device appears below Along with other items the questions that follow were presented to approximately 150 boys in an Indiana junior high school with some rather striking differences resulting in expressed preferences related to the social class status of the respondents (Cohen 1955 pp 106–107) [1]

> 1 Suppose you and some of your friends go to a movie One of the boys hasn't any money and you have some extra O K you lend him the money Now in the bunch that you run with what would you usually do? Would you expect him to (a) pay you back or (b) just do you a favor somehow?
>
> 2 A group of ten boys form a club They all decide to go to Indianapolis to the auto races It will cost about $6 00 a boy They all get jobs and save their money for a while When the time of the races comes they all have their money except one boy who is broke One of his friends had earned and saved some extra money and says I'll pay your way But the boy with out money says No you worked hard and saved the money The money is yours and I have no right to it The other boy says "Yes but you're my friend and friends are supposed to help one another I'll pay your way Even if you can't pay me back that's O K Do you think the boy should let his friend pay his way even if he's not sure he can pay it back?
>
> 3 When these ten boys first thought of making this trip nine of the boys were all excited about going and wanted to go very much But one boy said It takes a long time to save $6 00 I'm studying to be an electrician and I'm saving to buy books and tools that will run me over $15 00 No I can't afford to take this trip All the other boys said "The whole club ought to go together Maybe it will take you a little longer to save your $15 00 but you won't feel right if you stay behind and besides, the club ought to go as a whole Do you think the boy should (a) go along with the rest of the club or (b) stay home?

While half of the middle-class boys chose alternative (b) on the first question over three-quarters of the working-class boys made this response, a reflection of an ethic of reciprocity that is "You help me out when you're ahead of the game and I'll help you out when I'm ahead of the game" (Cohen 1955 p 106) To the second question above designed to pit the "spirit of spontaneous giving and guiltless acceptance" against the "spirit of rational

[1] Social class was determined primarily on the basis of father's occupation N = 75 working-class boys and 71 middle-class boys

exchange and individual responsibility," the results were even more *discriminating*, with approximately two-thirds of the working-class but only one-third of the middle-class boys answering "yes" Findings for the last question, the best example of a forced-choice item because two issues were involved (*long-run* versus *short-run* planning and *primary group support* versus *personal advancement*) were also as predicted One-half of the working-class but only a third of the middle-class boys chose to "go along with the rest of the club"

Although the questionnaire items presented in Figure 5 4 have not been validated against actual behavioral data or by comparing responses of independently determined "honest" and "dishonest" groups, they do illustrate rather well the *behavioral alternatives in lifelike situations* Situations were selected in which many people are believed to act unethically, and common rationalizations were added to take the onus off unethical courses of action and even to justify "correct" behavior in situations where it might be considered foolish (as an example, see item 6a in Figure 5 4)

Selected responses of a group of graduate business school students who were administered the questionnaire (Figure 5 4) anonymously by a class mate for "his wife who needed it for one of her courses," were as follows

1 A majority chose an illegal course of action with respect to the traffic regulations, thus risking what generally is a nominal fine (items 1c, 70 percent, 8b and 8c, 80 percent)

2 A majority were inclined to let their wife slip through customs wearing the ring (item 11b, 55 percent)

3 Questions involving only conscience about one's own behavior rather than legal considerations or children's behavior tended to be answered with the most ethically correct choice of actions (items 2b, 85 percent, 3a, 58 percent, 5a, 78 percent, 10b, 60 percent)

4 Some inconsistencies appeared on the questions involving children No one apparently would permit a daughter to keep the watch (item 7c) nor would the vast majority allow their daughters to take a hotel towel (item 9a, 79 percent), but less than half would return directly to the store in order to pay for the gum (item 4b, 39 percent) Whether a son would understand a parent's reasoning in paying later or forgetting such a small amount of money is debatable (Cockburn, 1965)

Semistructured Reports and Assignments

It has become routine in many occupations to fill out reports of various kinds Such reports constitute much of the official record of an institution's functioning They also provide much of the basis for administrative decisions The more complex and bureaucratic institutions become, the more demand there is for such reports

Answer each of the following questions circling the letter of the answer you feel most closely expresses what you would do in such a situation Do not check what you think you should do in that situation, or what you might rather do, but what you think you *would* do No names please

1 You are in New York City for the weekend and when you return to your car you find a parking ticket on it levying a $3 fine You would

    a Go to the nearest precinct and pay the fine

    b Put the ticket in your pocket and send in the money after you get home—they have ways of catching you

    c Put the ticket in your glove compartment and forget about it—they should pay you for finding a parking place in New York City

2 You go to the bank Monday morning and cash a $100 check On Tuesday afternoon when you go to pay for something you find the teller has given you $110 You would

    a Take the $10 back to the bank as soon as possible

    b Call the bank and tell them about your discovery

    c Forget about it—tellers are covered for small shortages and you can use the $10

3 You have been renting a furnished apartment for two years and during that time someone burned a hole in your couch The landlady is coming today to inspect for damages You would

    a Tell her about the burn before she begins looking

    b Toss a throw pillow over the burn and hope she doesn't notice the burn

    c Tell her the hole is there but that you didn't do it—it must have been done by previous tenants

4 You are at the 5 & 10 with your son and tell him he can have a pack of gum which he begins to chew at once You forget all about it until he offers you a piece in the car on the way home You would

    a Tell him you'll stop by the next time you're in the neighborhood and pay for it

    b Go back to the 5 & 10 and pay for the gum

    c Forget about it—the traffic at the shopping center is murder on Saturdays

5 You have just moved into your new house when a record from the Columbia Record Club arrives for the former occupants You would

    a Return it to the postman the next day

    b Keep it and see what happens

    c Open it up and play it—record clubs are rackets anyway

6 You and your wife have a combined income of $9500 a year She teaches school and tutors in the afternoon The tutoring is done privately

and on a cash basis with a total income of about $350 a year When making out your tax returns, you would

    a Report it—you know the government would find out somehow

    b Forget it—too much trouble to fill out a long form

    c Ask a few of her friends in the same situation what they're doing and follow suit

7 While at the World's Fair your daughter finds an inexpensive watch in a car at the Ford Pavilion You would

    a Tell her to put it back in the car

    b Turn it in at the Ford Information Desk

    c Let her keep it—you can't afford any of the souvenirs at the fair, and anyway, finders [are] keepers

8 While driving along a road at night you see a stop sign You can also see that nothing is coming in any direction You would

    a Come to a complete stop—police have a way of lurking behind bill boards

    b Come to a "rolling stop"—that's close enough

    c Slow down to about 10 mph and continue through

9 You stop at the New York Hilton with your family on your annual vacation, and your 13 year-old daughter wants to take a towel for the beach that summer You would

    a Tell her she can't have it—it's stealing

    b Let her take it—hotels like this budget for such losses

    c Tell her you don't care whether she takes it or not—you know all her friends have them

10 You are at a San Francisco convention on the company expense account and have brought your wife with you at your expense One night you decide to have an intimate dinner for two at one of the best restaurants in town You would

    a Charge it to the expense account—you know plenty of people who have done so

    b Pay for it yourself

    c Charge it to the expense account, but pay for a future, cheaper dinner yourself

11 You and your wife are returning from a trip to Europe and are over your quota by $150, which also happens to be what you paid for a ring she bought in Germany You would

    a Declare it—customs inspectors always *know*

    b Have your wife wear it and hope you aren't asked

FIGURE 5 4 ILLUSTRATIVE BEHAVIORAL ALTERNATIVE QUESTIONNAIRE (COCK BURN, 1965)

By structuring report forms in order to ensure coverage of certain items, one actually produces a questionnaire Like any other questionnaire, of course, the respondent may attempt to bias his reports so as to enhance his status with his administrative superiors, he may gloss over certain matters that he wishes to de-emphasize, and he may overstress other matters in an attempt to influence decisions in his favor or according to his own plans for the institution In sum, for his responses to be taken as raw research data, these potential distortions should be clearly recognized and interpreted accordingly

One major advantage to structured report forms, however, is that they lack the artificial qualities of many questionnaires when they are administered Very often a questionnaire respondent is less than enthusiastic about filling out the form given him and he accomplishes the task as quickly as possible with little serious reflection He sometimes even feels imposed upon if the questionnaire is moderately long or complex When the respondent knows that his reply will have a direct effect on himself, as often occurs with institutional reports, he is less likely to respond in an impulsive manner and more likely to fill it out carefully Under these conditions, a report becomes an unobtrusive research measure

A description follows of how a student teacher (Mitchell, 1966), by developing an outline to be followed in writing a theme, investigated the effects of paid jobs for teen agers upon their other activities, interests, and attitudes The details of this outline (see Figure 5 5) not only contained the content coverage desired, but also, by stressing certain paragraph-writing skills, pre-

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Having learned to write good paragraphs, you are now ready to write a whole theme Your subject will be 'my job' or "one of the ways I have earned spending money " To make sure that your paragraph is unified and well organized or ordered you will need to outline the points you want to make in your theme before you begin The ideas for the topic sentence of each paragraph will come under Roman numeral headings, while your major and minor supporting ideas will come under A's and B's (etc) and 1's and 2 s (etc) In parentheses after each major or minor supporting idea of your outline put whether the idea is a detail, an illustration, or a reason in an argument You should include at least one of each Here are some points you will want to include

1 DETAILS
   a *Descriptive*
      What are the responsibilities you have?
      How many hours a week do you work?
      How much do you get paid and is it enough?
      What is your boss like?

What are the people you work with like (do they help you, get mad at you, etc.)?

   b *Explanatory*
      What are the steps you go through to do your job?

2 *NARRATIVE*
   What are some interesting incidents which have happened to you while working?

3 *ARGUMENTATIVE*
   a Does work interfere with your social life—dates, participation in school sports, dramatics or other activities, attendance of school events such as games, family plans, church or club groups, get togethers with friends (movies, soda fountain treats, etc)?
   b Does work interfere with things you do in your free time—home chores, TV, radio, records, hobbies, goofing-off?
   c Does it interefere with your school work?
   d. Does it help you
      (1) in training yourself for a career or helping you choose a career
      (2) learning to follow directions or helping you concentrate on what you are doing and helping you get the job done fast and efficiently?
      (3) does it help you get along with other people or teach you how to cooperate with people more easily?
      (4) Is the money useful to you for
           (a) bus fare, school lunches, and other necessities?
           (b) extra clothes and other things you want to be like the other kids at school?
           (c) dates, movies, ice cream, sodas, cokes, car running ex penses gas money when you use the family car?
           (d) a special savings fund?

FIGURE 5 5 INSTRUCTIONS FOR A TENTH GRADE THEME ASSIGNMENT

sented an instrument quite unlike the usual probing devices that many adolescents resent. Individual comments were readily coded in relation to the various parts of the outline A summary of some of the attitudes expressed by this particular tenth-grade group appears in graph form in Figure 5 6

   Q Methodology

   Despite considerable criticism and certain limitations, Q techniques seem particularly suited to naturalistic studies of attitude change They represent a sophisticated way of rank-ordering items and then assigning values to subsets of the items for statistical analysis Typically, persons are
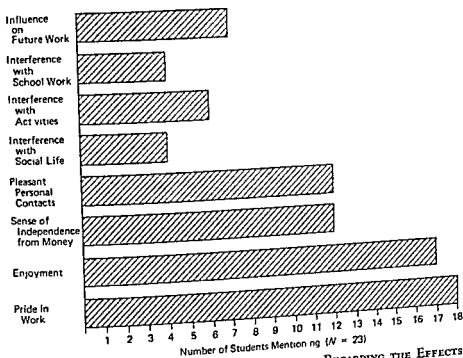
FIGURE 5 6   ATTITUDES, INTERESTS AND ACTIVITIES REGARDING THE EFFECTS
OF TEENAGE JOBS (MITCHELL)

asked to sort from 60 to 100 items into piles of given numbers of items along an attitude continuum The pile at one end of the continuum includes items that are most strongly endorsed by respondents, at the other end the pile contains items that least represent their feelings By varying the number of items in the piles so as to approximate a normal distribution, it enhances the utilization of parametric statistical analyses

Although it does not seem likely that the administration of Q sorts can ever be disguised as much as many other instruments the sorting procedure possesses a gamelike quality that makes it enjoyable for most persons to do By having one individual sort items several times perhaps under varying instructions or attitude criteria, it is possible to make intensive studies of individuals almost in clinical fashion, but with data that can be analyzed quite objectively Q methodology is also highly useful in exploratory research where the variables may not yet be clearly defined a characteristic of much naturalistic study Its disadvantages, which have to do with certain statistical restrictions and the need for considerable statistical know-how, do not seem to outweigh its merits, and Q methodology holds great promise for social psychological studies (Kerlinger, 1964, pp 592–599)

Nominations and Sociometric
Techniques

The tendency to notice exceptional, as compared with average, characteristics puts nomination and sociometric data in a special class Reputations and lasting impressions of people are based primarily on singular and near-singular qualities

Newer than many data-gathering methods, sociometric techniques are highly useful in naturalistic research Replete with quantitative index possibilities, they provide the would-be investigator with a variety of ways for tapping the areas of social status and interaction A number of good references exist today to help one determine precise questions to ask and follow up analytic steps to take (for examples, see Kerlinger, 1964, pp 555–562 Lindzey and Borgatta, 1954)

The importance of sociometric data is now also well established A number of studies have shown strong relationships between peer evaluations of students and other qualities such as their emotional adjustment and school success One of the major instruments used to measure social adjustment in River City (Havighurst et al , 1962) was a 15 item "Who Are They" test, on which sixth graders listed the names of classmates who fitted various descriptions such as "Who are the ones who are timid and afraid to take chances" Data from this sociometric device, especially in conjunction with teacher ratings, were highly predictive of school success, church activity, and delinquency tendencies during high school years Collecting data on approximately 5500 California children, Bowers (1958) and his colleagues found another sociometric instrument, "A Class Play," to be highly valid for identifying emotionally disturbed children and the best single method among those they tried for preliminary screening of large numbers of children Furthermore, such group variables as diffusion of peer nominations and social power hierarchy are most readily measured by sociometric means They are receiving considerable attention as classroom social structure is coming increasingly under the investigators microscope (Glidewell et al , 1966)

Regular institutional activities provide many natural opportunities for asking people to indicate whom they would select for a given role or to fit a particular description Sociometric measurement is merely a slight formalizing of a natural evaluation process inherent in human interaction Thus, when a worker group selects someone by private ballot to be its spokesman with management, when the entire office force is asked to turn in the names of colleagues to plan the annual picnic or carry out some other specific function when a Boy Scout leader requests names in writing from the whole

troop of those most deserving of particular honors—in all these situations, sociometric data result that permit interpretation about group structure, individual status, peer expectancy and a host of other variables

The validity of such data, of course, depends on a number of factors One is the general rapport prevailing between the person asking the questions and those making the nominations A reasonable tolerance for others should characterize the group atmosphere (Sears and Sherman 1964 p 16) There is often strong resistance to indicating in writing the names of best friends, preferred persons for assignments, and especially persons disliked or fitting negative role descriptions. If the administrator of the questionnaire has obvious favorites among the candidates, furthermore, the respondent may be swayed toward or away from such candidates, depending on his own feelings toward the administrator The respondent needs to feel that the administrator will not reveal to anyone else the choices made and will not show approval or disapproval toward himself as a consequence of his nominations For responses to be valid, furthermore, a respondent should be convinced of the necessity for providing the information requested and should accept the use to be made of it

Assuming good general rapport within the group, the administrator of the sociometric questionnaire should make his instructions convincingly reassuring with respect to the factors mentioned above He needs to mention real uses to be made of the information, which will be readily apparent in later actions, and to caution everyone of the need for strict confidentiality of responses (such as, not discussing them afterwards, since they are private matters)

Typical of the kinds of statements that are made to introduce a nominating device to a group of school children are the following

> We have been reading together a book about three little friends These three were very close friends I would like to know whom you would choose as your best friends It might help me to plan things for you Will you write on a piece of paper the names of those you choose as your best friends? Do not write more than three names, even though you have more than three friends (American Council on Education, 1945, p 295)

> On a hike tomorrow there will be times when the group cannot all be together, so I want you to stay in pairs at all times so someone knows where you are Will you list the three people that you would prefer to be paired up with No one but me will know what you put down, since its nobody else's business, but you will be paired either with someone whom you choose or someone who chooses you
> (Hypothetical scoutmaster request)

It is imperative that any promises made regarding the use of data be kept For example, the scoutmaster should actually pair youngsters on the hike in accordance with what he had said he would do

Not only are instructions and group rapport important, but format and setting as well An alphabetical list of all group members provides a subtle reminder of absentees or inconspicuous attenders without drawing special attention to any one person It also helps prevent the exclusion of persons because their names are difficult to spell and minimizes obvious looking around the room for persons to nominate Individual pictures of classmates have sometimes been pointed to or sorted out by young children rather than requiring them to read or write

Illustrations of forms that have been developed to reflect a particular setting are presented in Figures 5 7 and 5 8 "This Is Our Class at a Picnic is the more pure example of a sociometric device because it contains no other cues than group-size indicators On the other hand, "This Is Our Class on the Playground provides interesting possibilities for obtaining perceived group activity data both as to membership and activity type

In summary, then, with careful attention to the manner in which they are administered, including both instructions and format, sociometric information requests are valuable tools in naturalistic research
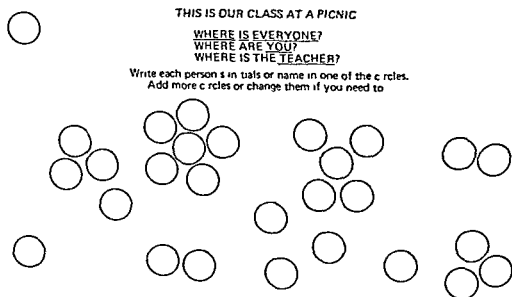
FIGURE 5 7   CLASS PICNIC SOCIOMETRIC DEVICE (LOS ANGELES COUNTY
                SUPERINTENDENT OF SCHOOLS, DIVISION OF RESEARCH AND
                GUIDANCE)
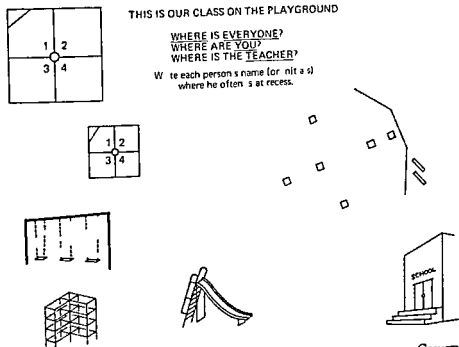
FIGURE 5 8   PLAYGROUND SOCIOMETRIC DEVICE (LOS ANGELES COUNTY
SUPERINTENDENT OF SCHOOLS DIVISION OF RESEARCH AND
GUIDANCE)

INTERVIEWS

Talking is perhaps man s greatest single activity For many peo-
ple it occupies the major portion of the waking day In providing clues to
man s inner thoughts and feelings it has no parallel

To the scientific investigator of human behavior what one says must
certainly rank closely in importance to what one does. Even when sayings
are found to be inconsistent with doings," the inconsistency itself is a note-
worthy item of information Different people often exhibit the same behavior
but for strikingly different reasons One man walks his dog to obtain a bit
of exercise after a sedentary day at his office another, to escape the ranting
tirades of a wife The most direct way to find out what his reasons are is to
ask him or even better perhaps merely to listen to him as he discusses
this walk with his dog

The vast majority of thoughts that together comprise the total mental
activity of a human being during a single day are never expressed in overt

activity nor are they readily discernible to the outside observer A greater proportion, though still a small minority of the whole, receives some degree of expression in the various conversations he takes part in throughout the day Thus, conversations become major behavior settings for studies of the covert side of human functioning

To the scientist, the interview, along with the questionnaire, has been the primary tool for tapping human thoughts and feelings The interview is little more than a somewhat formal conversation, however, structured around the purposes of the interviewer and designed to elicit the precise information he needs For naturalistic investigation, all conversational activity offers data gathering opportunity

To take advantage of this opportunity, the full range of interviewing skills needs to be mastered Just as with questionnaire data gathering, the way questions are stated has considerable bearing on the usefulness of the answers Little more than a "Yes" or 'No is likely to be forthcoming from a question that starts, "Did you ever _____," whereas the same basic question phrased, "When did you _____" often provides most informative responses (Young, 1949, p 255) Considerable literature is available to the would be interviewer on the do's' and 'don'ts' of interviewing Most of these suggestions are based primarily on interviewing experience, usually of a survey nature, and offer little in the way of underlying theoretical rationale (Connell and Kahn, 1953) Nevertheless, several sources are especially worthwhile (Festinger and Katz, 1953, Jahoda Deutsch, and Cook, 1951, Kinsey et al, 1948, and Young, 1949)

Even though an informal and nonstructured style of interviewing is usually featured in naturalistic study, it behooves the investigator to recognize different types of interviews and to know when to use them Each offers advantages and disadvantages, which makes it more or less appropriate for use in a particular situation

Types of Interviews

Perhaps best known is the *poll type* of interview, in which a survey is made of such matters as buying and voting intentions An extensive array of private firms and government agencies are constantly checking public opinion with respect to all kinds of consumer products, political issues, institutional policies, and societal trends One has only to skim through the latest news magazine to find the most recent polls reported on topics of current interest Owing to differences in sampling and interviewing practices, the results of separate polls on the same subject are often strangely conflicting The impact on voter or buyer behavior of reading pollsters' reports has never been fully ascertained The increasing practice of both politicians and busi

nessmen in citing their own pollsters reports, as evidence of their superiority, suggests that many people believe that there is considerable impact. As a result of both shoddy practices and extravagant, as well as inconsistent, claims made on the basis of scientific poll taking, survey techniques are fast becoming suspect in the public mind.

In spite of occasional misuse and perhaps overuse, *structured or formal interviewing* is a soundly established procedure in modern behavioral science. The structure, furthermore, tends to follow one of the following models (Zeisel, 1957).

1 The *push pull scheme*, used in studies of the reasons for changing behavior or preference from X to Y. The model consists of the attributes of X and Y (Example How come you didn't vote the straight Republican ticket this time when you usually do?)

2 The *attributes motives-influences scheme*, used in categorizing the reasons for choosing particular items. The model consists of the attributes of X, the motives of the respondent, and the sources of influence concerning his choice (Example How come you keep your regular golf dates when you really don't have the time anymore?)

3 The *technical properties-resulting gratification scheme*, used in finding out what is it about X' that the respondent likes. The model consists of the technical properties of X and resulting gratifications to the respondent (Example What is it about poker that's so great?)

4 The *when-is it, what barrier keeps it there, who is to-blame scheme*, used in studying the respondent's reasons for shortages of anything (Example Why do you think we haven't been able to get enough money for the new church?)

5 The *underlying reasons-precipitating-cause scheme*, used in extending model two and for classifying answers to the questions 'Why did you do so and so?' and 'Why did you do it just then?

Interviews are structured not only to obtain opinion and reaction content but also current or retrospective accounts of situations, events, and ongoing practices that are difficult for an outsider to observe directly and which are too personal or complex to obtain via questionnaire Kinsey's (Kinsey, et al, 1948) probes of modern American sex activity and Sears Maccoby, and Levin's (1957) well known investigation of child rearing practices are good examples.

In the latter study, interviewers opened with such factual questions as, "How many children do you have?' and 'Has X been with you all his life or have you been separated from him at any time? Later on they asked directly about child rearing practices through such questions as, "When X has to be disciplined, who usually does it, you or your husband (assuming both of you are there)?' Near the end, their schedule included some open

ended questions, with follow up probing items if needed, designed to elicit reactions toward the motherhood role Examples "Now looking back to your own childhood—how would you compare the way your mother raised you with the way you're raising your own children?' or if a difference, "How do you feel about these changes?" (Sears, Maccoby, and Levin, 1957, pp 491–501)

In *open end* interviews, the basic questions and the sequence of their presentation are predetermined, but the interviewer maintains the freedom to probe nondirectively with such questions as, 'Can you say anymore about it?' "What makes you think . . ?" "Why?" "In what way?" "I'm not sure I understand" "Can you give me an illustration?' He does not have the freedom to depart from the basic schedule, however, into new content areas

Nonstructured interview types have a variety of names, depending primarily on their purpose and content (*focused, clinical, depth, nondirective* or *client-centered*) The *focused* interview is aimed at determining the subjective impact of a given experience, the content of which has already been thoroughly preanalyzed For example, the answers to the question, "What were the features of the broadcast (the Orson Wells "Invasion from Mars" program) that made it so believable?' were categorized according to (1) the authenticity of places and persons mentioned, (2) the technical realism of the performance, (3) some special sentences mentioned, and (4) some more general aspects (Herzog, 1955) The interviewer knows generally the questions he wants to ask, but the manner and timing of his questioning are largely discretionary (Merton and Kendall, 1946)

The *clinical* interview centers on underlying motivation rather than on the effects of specific experiences The interviewer listens both to what is said and to what is not said *Depth* interview is the term often employed to refer to psychiatric or psychoanalytic conferences, and *nondirective* or *client-centered* to the kinds of sessions advocated by Rogers (1951) and his followers The latter represents probably the most nonstructured of all forms of interviewing, with the direction of each session left largely to the interviewee The counselor tries to create an accepting and understanding relationship by responding to the feelings expressed without evaluating or making suggestions to the client Such counselor statements as "You were really disappointed," "You felt very uncertain about   " and "I can see that you were (really excited)' characterize the nondirective interview

Nonstructured styles of interviewing are particularly suited to naturalistic research because they can be applied at the discretion of the investigator with minimal alteration of ongoing events By insertion of proper questions at appropriate places in ordinary conversation, he can procure an amazing amount of relevant data that at other times would be most difficult to obtain If this question asking is done skillfully, the interviewee seldom realizes he

has been interviewed The advantages of nonstructured interviewing in procuring covert data as they are expressed momentarily and spontaneously in the course of everyday activity would seem to outweigh substantially the disadvantages inherent in later codification and quantification

Types of Questions

One can distinguish not only types of interviews but also of questions Both on questionnaires and in interviews a wide variety of questions is found Again it is desirable for the would-be investigator to recognize these question types in order to control his utilization of them A number of common types are listed below

1 *Leading questions,* used in opening up a topic on which opinions are desired Examples "What do you think about the problem of minority groups in this country" Jewish problem? Black problem?"

2 *Comparative questions,* used in forcing respondents to make preferential judgments among content items. Examples "What minority group do you find the least attractive Which do you like the least"

3 *Recall of past event questions* used in obtaining what respondents remember about a given event or type of event Examples "What do you remember about ?" "Under what circumstances did such and such a phenomenon occur?" "What happened"

4 *Recall of past respondent behavior,* used frequently to specify concrete performance data as a prelude to asking how typical such behavior is of respondents This procedure provides respondents with precise recall cues and tends to minimize tendencies to distort responses to the general questions that follow Examples "For whom did you vote in the primary? What made you vote for him? Did you know the religions of the candidates? Were you influenced for or against any candidate because of his religion?" These questions might well precede the following general question rather than merely being asked without appropriate buildup "Do you usually tend to consider a candidate's religion in making up your mind for whom to vote?" (Jahoda et al, 1951, p. 169)

5 *Feeling questions,* used to obtain subjective affective reactions to past or present events. These may be asked either directly (examples "How did you feel about ?" and "Did that bother you" or need restored, reflecting the affective content of a previous statement (examples "You were really upset about " and "That annoyed you somewhat")

6 *Cause-effect questions* used in determining respondents' reasons for particular happenings and situations. Example "What factors were associated with it" "What caused it?"

7 What was (is) it *or* about it questions used in stimulating respondents

to cite additional details about their reactions, opinions, or happenings
Examples "What specifically was it that upset you so" and "What
bothered you most about what happened"

8 *Would questions*, used to assess respondents' beliefs about action stand-
ards Examples (to a Caucasian R) Suppose that when you open the
door for the boy who has made a date with your 18-year-old daughter,
you find that he is a Black what would you do? Why""

9 *Should questions*, used to assess respondents' beliefs about preferred and
ideal actions and situations Examples "In your opinion should children
be bused across town in order to balance the proportions of white and
black children in schools? Why do you think this"" The investigator
should keep in mind of course, that the ideal response often guides what
to say on formal occasions rather than what to do in everyday behavior

10 *Why questions*, used for a variety of purposes In general, *why* is used
to probe for more detail than has been given in response to an earlier
question It serves in this follow up function as illustrated in the exam-
ples cited of *should* and *would* questions (items 8 and 9) *Why* is often
used in the historical sense, meaning "How did you come to   "" or
"When did you begin to   " It may be used to find out those charac-
teristics in a given entity that provoked a given response to *What was
there-about-it questions* (item 7 above) It can be used to discover the
evidence one has for holding a particular belief (example "What ex
perience have you had that makes you believe this way"") It is often
used to get at *respondents* motives for doing something (examples "Why
did you do it?" "What got into you?")

Though not exhaustive the preceding list indicates the wide variety of
questions available to the naturalistic researcher It also suggests the need for
different types of questions at differing stages in the research as well as for
different types of research Just as in consumer research certain question
types are more likely to be used than others, other types are more likely to
be employed in field research especially when participant observers are en
gaged in conversational interviewing

Conversational Interviews

The employment of various interviewing techniques during ordi
nary conversations in order to obtain data for research purposes will be
referred to as *conversational interviewing* Typically, the interviewee does
not know his statements will become research data, nor is he necessarily aware
that an investigation involving him as a respondent is even under way Con
versational remarks are heard, remembered and recorded by participant
observers or other field workers during moments when awareness of outside
inspection is minimal on the part of the interviewees

As with other interview data, the basic purpose is the objective collection of (1) pertinent subjective data and (2) detailed behavior and event descriptions that are either totally unavailable to the investigator or economically unfeasible for him to collect directly The primary difference from other interview data is their informal, seemingly unobtrusive manner of procurement and, as a result, a spontaneous, natural reaction quality that is not characteristic of regular interview material Presumably, the greater validity of subjective and personal event information obtained in this manner is worth the extensive effort it takes to gather, codify, quantify, and interpret it There is no question that in many areas peripheral to one's private, personal life, other methods are more efficient, but for in-depth looks at people behaving in their ordinary settings, day in and day out, there is no shortcut to detailed study of their actions over time. Their conversations are an important part of these actions

Stages and Roles in Conversational Interviewing

As hinted already, the questions an investigator should ask vary in accordance not only with his purposes but also with the stage the research is in The same question asked appropriately in one setting or at one stage in the investigation may lead to all kinds of trouble in other settings or stages It becomes important, therefore, to recognize the major roles that a successful field worker tends to assume at differing stages of his conversational interviewing of people

Participant Observation Lindeman used participant observation

as early as 1924 He and a colleague (Hader and Lindeman, 1933, p 148) later described this process as follows

> *Participant Observation* is based on the theory that an interpretation of an event can only be approximately correct when it is a composite of the two points of view, the *outside* and the *inside* Thus the view of the person who was a participant in the event, whose wishes and interests were in some way involved, and the view of the person who was not a participant but only an observer, or analyst, coalesce in one final synthesis

Simply stated, the research investigator is also a natural participant in the activities of the group he is studying He can assume a high degree of participation, as Leighton (1945) did in his role of research director and chief medical officer when he studied a wartime Japanese relocation center; or he can be so inactive in membership of the community he investigates that he has no effect whatsoever on it As Lasswell (1948, pp 101–102) suggests, for example, "A spectator who is buried in the grandstand does not modify the spectacle if he behaves like everyone else"

Although the latter, unobtrusive role may seem to be superior from a research standpoint because the observer can devote full attention to his investigation, other advantages favor the more active participant role Active participation in the community can actually enhance the naturalness of the observer's position as well as give him access to greater amounts of relatively inaccessible information The spectator, for example, is generally unable to hear the coach's instructions to his players or other conversations among those key persons who have the greatest control over the game Locker room and bench talk potentially important data for understanding the psychology or sociology of the players, is generally inaccessible to the spectator The investigator should give careful thought to how active a participant he should be in order to accomplish his objectives

Quite often a natural participant role must actually be sought by the would be researcher He either has no initial role within the community he wishes to analyze or his role is not sufficiently important to permit him access to key sources of information He must become an accepted participant He must be on the alert for opportunities to assume particular roles that increase his research vantage point Anthropologists typically move into the communities they investigate, going native as much as their personal and scientific discretion permits Thus W F Whyte (1955) rented quarters in Corner ville in order to be near the late adolescent youths he was studying He later accepted a position as an unpaid secretary for particular political candidates in order to be able to view the political life of Cornerville closely Ordinarily, establishing allegiance to one group within an organization or community is not recommended but in this instance the candidates happened to have overwhelming community support, so Whyte did not jeopardize his community wide acceptance by assuming this role

The role of participant observer, then is a dual one As a scientist, he must be concerned about objectivity, as a participant, about being sufficiently pleasant and natural as to avoid annoying the objects of his study Madge (1953 p 131) comments

> The primary task of the participant observer is to enter into the life of the community being studied If this task is achieved there will be two consequences his subjects will learn to take him for granted and thus to behave almost as though he were not there and he will learn to think almost as they think

Gaining Acceptance and Establishing Rapport The immediate research goal of attaining sufficient acceptance to move and talk easily with people is not easy to reach Its attainment depends in part on how effectively the participant role is played, as distinct from the research role Although total immersion in the organization or culture being studied is seldom pos

sible or even desirable for the outsider, nor is it necessary to imitate exactly what others do, general conformity is especially helpful along social lines Sound relationships with key persons is essential for achieving widespread community support Whyte gained access to the Cornerville adolescent society primarily because he was accepted first by Doc, one of its key figures Prior knowledge about both the people and culture obviously is instru mental to success without such knowledge, critical mistakes are sometimes made during the early days of a field study and may prevent the researcher from ever 'getting in Talking to the wrong persons first not adhering to local customs, or violating taboos can needlessly jeopardize an entire research effort

In her classic study of Black life in a small Mississippi town Powdermaker (1966), for example, was especially careful to interview white townspeople first She tried also not to be obvious about addressing Blacks as Mr and Mrs when whites were within earshot or about taking refreshments with them Her research was almost jeopardized on one occasion by being seen riding in a truck with a Black man as driver and without the latter's wife along As a "Yankee outsider, her presence in town would probably not have been tolerated if she had not first received the endorsement of a high status "gentleman poet from a neighboring city)

In addition to the factors mentioned, acceptable answers need to be stated with regard to questions about the intruders identity and the purpose of his presence Not only do people need to know generally how he plans to take part in community affairs, but to the extent that his research activity will be conspicuous explanations of the investigation are also necessary Community research itself provides documentation of the fact that newcomers to any organization or neighborhood are subtly, or perhaps not so subtly, quizzed about who they are, where they come from why they came, and a host of other personal matters, until people can place them on the status continuum and maintain certain expectations for them (Warner and Lunt, 1941) Researchers are not likely to be exempted from this treatment They have the additional burden of explaining their research to the point where people are convinced of no malice

Typically, although exceptions can be noted outsiders provide inside authorities with sufficient accounts of the proposed research to satisfy the latter of its general significance and harmless effects Often included in such discussions are promises of cooperation by the insiders and proper behavior by the outsiders Agreements are reached regarding how information will be gathered and reported Researchers will often notify authorities that they will not be able to report their findings on any kind of a personal basis so that privileged data cannot be traced to individual persons How the com munity or organization will benefit, if at all is made apparent

Thus, city officials and other leading citizens received briefings at the outset of such widely known community studies as Yankee City, Elmtown, and River City Doc was given a long treatise by Whyte (1955) which emphasized his interest in congested city districts during his college study and his desire to know the people and their problems first hand So convincing was the explanation and so secure was Doc of his own standing that he offered (W F Whyte, 1955, p 292)

> That's right You tell me what you want to see, and we'll arrange it. When you want some information, I'll ask for it, and you listen When you want to find out their philosophy of life, I'll start an argument and get it for you If there's something else you want to get I'll stage an act for you Not a scrap, you know, but just tell me what you want, and I'll get it for you

Not only do authorities need to be briefed, but other prominent persons as well With the latter persons, statements probably do not have to be so elaborate Nevertheless, researchers need to give careful thought to what they shall say in response to a wide variety of questions from a large number of people Their answers need to be both reassuring and truthful Their explanations must be consistent with respect to their present and subsequent behavior, which is why truthfulness is important Untruthful answers are likely to be found untrue at some unguarded moment, and once the climate of trust is destroyed, information channels become blocked

The author of *Street Corner Society* (W F Whyte, 1955, p 456) makes these specific recommendations for gaining community acceptance and explaining a field research (1) seek the support of key people first and the rest will follow, (2) keep explanations of what you are doing brief and simple, but indicate a willingness to go into detail (for example, 'I'm doing something new, the social history of a slum district from present to past'), (3) make the explanation general enough to cover later activities without further explanation Another investigator, Dalton (1959), emphasizes the last point also He adds another by stating that he lets people know of his general interest only and by indicating that he wants broad information on "all kinds of personnel problems from as many firms as possible" (Dalton, 1967, p 76) He usually quizzes persons about their earlier work experiences, both "here and elsewhere so as not to target the present target too much'

In addition, Whyte (1955) cites some general admonitions regarding the establishment and maintenance of rapport (1) instead of trying to copy others in all respects, concentrate on manifesting a sympathetic interest in them and their activities (2) provide no evidence of moral disapproval or condescension, (3) spend considerable time with people, making frequent contacts throughout the life of the project, (4) avoid taking sides in intragroup

what he does A first line production supervisor is likely to be well informed about morale among plant foremen and other supervisors, but may know very little about the power structure of the board of directors. A member of the board, however, is likely to have considerably less than accurate under standing of how supervisors feel about board policies Informants may come from all echelons of an organization, as they did in Dalton's study (1967, p 77), because the purposes of the investigation are broad and many organizational features need to be studied Among Dalton's best informants about executive affairs, furthermore, were several secretaries, who were knowledgeable because of their regular exposure to all kinds of privileged information

Not only is the kind of information important in the selection of interviewees, but also their readiness to talk. Hollingshead (1949) reports returning again and again to certain informers after his first conversations proved informative Some people are by nature more talkative and perhaps more articulate than others

Although a relatively small sample of such people might furnish the bulk of raw material, attempts should also be made to test out the representativeness of this sample by checking certain reactions and reports with a broad sampling of other persons (see the later section "Double Checking") The question of how widespread a given reaction is ought to be determined perhaps not on most content furnished by talkative persons but at least on key points

Leading Questions Certain kinds of open-end questions serve both as initial comments in a conversation and intermediate comments following casual talk to introduce research topics inconspicuously but effectively nevertheless The art of concealed interviewing calls for directing the conversation to research topics without persons other than the interviewer being aware of it.

Nonthreatening questions used to initiate conversations include, "How's it going?", "What's been going on?", "What's new?", and "How are you feeling?" At least one field worker uses the technique of walking into a factory and making a wrong observation on purpose in order to point the conversation where he wants it. The typical response is to correct his mistaken impression, which in turn he repeats with some distortion in order to bring forth further elaboration from the interviewee (Roy, 1959), thus providing the detail needed Thus, in wanting to gather data on how drill press operators feel about their machines, the following conversation might well occur as a result of a knowingly inaccurate comment by the interviewer

I   These new drill presses sure must be an improvement over the old ones.

R   These aren't new—the same ones we had when I came here three years ago

Following a Schedule Any researcher should know in general the kind of information he wishes to gather and that which is irrelevant to his purposes In many formal interview studies, a regular schedule is followed from question to question until all have been asked Many schedules have alternative questions built into them for eliciting response elaboration to a given question or for following particular leads that arise The conversational interviewer should also know what information he wants, both generally and specifically, even though during the conduct of his study some changes will occur in his awareness of what information is most important. One cannot know at the beginning of an organizational or community study all the areas that will prove important or all the questions to ask Naturalistic studies are characterized, in part, by their ever-emerging statement and restatement of problem and refinement in procedure Nevertheless, at any given time, the investigator should have a plan of action—that is, a set of working hypotheses—that includes the kind of information he needs, and, as this plan is revised, he will need to look for new kinds and occasionally new sources of data According to Geer (1967, p 383),

> the hypothesis for the field worker, takes the practical form of kinds of people to see, places to go, and questions to ask.   Some of them (hypotheses) can be tested immediately by having a look at a group or asking questions of informants Others, usually based on an accumulation of data, predict an event or state that people will behave in specified ways under certain conditions

Even if little formal interviewing is done, the investigator generally has key questions in mind that guide what he listens for Thus, while he was studying management, Dalton (1967, p 81) reported having been guided by such unspoken questions as "Who was recruited, and advanced? What were the bases on which people were chosen for preferment? What did 'ability' mean, and how important was it in success as compared with seniority? How did people go about climbing in the ranks'"

In an unpublished study of dating patterns of a small group of high school boys, the father (Rutrough, 1966) of one of them developed a simple schedule to guide his listening and casual questioning Figure 5 9 shows how one such sheet was filled out. Over several weekends this schedule enabled him to gather the information desired from each boy without his awareness While direct questioning would have provided answers more expeditiously and a larger sample, the validity of responses would have been uncertain at best. Adolescent peer activities are not readily revealed to adults without the existence of considerable trust The use of conversational interviewing can at least serve to determine how valid are direct questionnaire responses, even though they may often be more costly and time consuming In this instance

1 Frequency of dating in terms of the number of dates per week
    a Week days
        no dating on week-day nights
    b Weekends
        Friday night
        Saturday night—occasionally Sunday afternoon
    c Special occasions
        School functions
2 Social aspects of dating
    a Activities
        Movie or bowling—(Friday night)
        Plays tennis, dates in home, car riding (Saturday night)
        Tennis—car riding boating & swimming in season
            (Sunday afternoon)
3 Financial aspects of dating
    a Amount of money spent per week
        $5 00
    b Source of funds
        Earns own money (works at grocery store)
    c Items and activities for which funds were expended
        Admission to movies, hops, food & drinks, bowling fees
        Father furnishes auto and gasoline
4 Incidence of going steady
    a Dated same girl for past 6 months ____
    *b Dated same girl for past 3 months _x_
    c Other

*Date lives in neighboring town 13 miles away (high school sophomore)

FIGURE 5 9   DATING PATTERNS OF A HIGH SCHOOL BOY   (RUTROUGH)

the schedule was simple enough that its completion did not take very much total time on the part of the investigator By being alert to the several rather brief contacts he had with each of the boys, he was able to listen for comments related to his schedule and even double-check their consistency from one occasion to another, thus establishing a measure of their reliability

Occasionally a single question, if carefully selected and tried out, can be highly representative of a considerable range of attitudes and therefore especially useful to the naturalistic investigator Stouffer (Kendall, 1955, p. 38) and his associates, for example, used the following question to indicate which soldiers identified most closely with civilian life "Which do you prefer to wear on furlough, uniform or civilian clothes?" Only 30 percent of the

selectees interviewed, whereas 62 percent of the regulars, said that they preferred uniforms Becker et al (1961) inserted such a question into several routine conversations over a period of several days until they had sufficient numbers of responses to code and tally in regular survey fashion the attitudes of freshman medical students Table 5 1 presents their findings, and the field note below illustrates both the interviewing technique and reaction to the question (Becker et al , 1961, pp 75, 78)

> Having coffee in the basement of Strong with Phil Lee and Dick Porter, I said, 'Yesterday some of the guys were talking about their ideas of a successful physician Have you got any ideas about that?' Phil said, Gee, that is a good question Dick said, Boy, it sure is I haven't thought about that I don't think it's money though I don't think that is the only thing Phil said, I don't think money has anything to do with it Dick said, I think it's more of a matter of whether you can use all your knowledge, your medical knowledge, in your practice Phil said, 'Well, I think being in the position to help people is important too, but it's hard for us to say about this now (Oct. 2, 1956 Two single fraternity men)

TABLE 5 1 WHAT IS YOUR IDEA OF A SUCCESSFUL PHYSICIAN?
(RANDOM SAMPLE OF 19 FRESHMEN SPRING, 1967)

Response	Number	Percent*
Medical skill and knowledge	17	89
Money secondary	4	21
Respect from community or patients	3	16
Personal satisfaction	2	10
Getting along with patients	2	10
A large practice	2	10
A comfortable living	2	10
Miscellaneous	3	16

* Since nearly every student gave more than one answer these figures total more than 100 percent (Becker et al. 1961, p 78)

Of course much more detailed, lengthy schedules are utilized in formal interviewing In addition to their conversational interviewing, Becker et al (1961, pp 445–451) also used a 138-item schedule developed from the participant observation material for surveying a random sample of the student body during the second year of their study Questions were generally asked in a prescribed order and with approximately the same wording, although occasionally questions were skipped if the answers had already been given

Listening and Overheards It is important to know the questions one wants to have answered, in order not only to be able to phrase questions properly but also to recognize appropriate conversation statements that need to be remembered and recorded The art of conversational interviewing is in part the art of listening selectively Of all one hears only certain items are noteworthy and relevant to research aims These need to be recognized immediately and recalled accurately in detail for later recording

Much of what one needs to know will be volunteered without having to ask for it Some responses are in the form of asides Reactions toward particular people are often revealed in the side comments phrases and qualifying terms used in describing an event. Interviewers, then, need to cultivate the art of listening attentively, both to make appropriate conversational responses themselves and to obtain the research information they seek

Certain areas of questioning are taboo, and the only appropriate means for gathering data is listening rather than questioning In her Mississippi study, Powdermaker (1966) stayed away from direct questions about sexual practices or Black attitudes toward White people, yet she was able to hear a lot about both in the course of discussing other matters, once rapport was well established

Unguarded, unsolicited conversational items, useful as research information, are sometimes referred to as overheards (Harrison 1953)

> Systematic listening to unprompted conversation gets as near as the outsider can to the frank level of opinion, and especially to spontaneous interest and to intensity of feeling Hundreds of thousands of pounds have been spent on interview assessments of public opinion no scientific study has been made of what people actually, naturally, do talk about

A collection of overheards" could easily serve as the primary data in studies of taboo subjects

Probing for Depth Unfortunately, the task of listening does not necessarily become easier as a study goes on The more the investigator knows as a result of research, the easier it is for him to disclose bits of information accidentally and alarm informants that he might be imprudent in his use of information, compromising any confidences they might have revealed (Dalton, 1967, p 103)

The successful interviewer is careful about what he reveals and how hard he probes for additional information Occasionally, when he probes too hard, a respondent, sensing that he is revealing too much attempts to reverse roles by asking the interviewer what he thinks It is best to make a brief noncommittal response and counter with a question for example 'I m not sure what do you think?"

As with opening questions, timing is important Inspection of the field

notes published in *Boys in White* (Becker et al, 1961) indicates that more often than not the investigators questions were merely requests for more information about something that had already been mentioned by the inform ant. The researcher seeks further details about an event the informants position on a given issue or perhaps even a qualitative comparison with other events or issues The three field note excerpts (Becker, 1961, pp 72–75) below illustrate how an interviewer probes for such elaboration during ordi nary conversations (italic type inserted)

I was with three students Hap Garrett Al Jones, and Ken Thomas, who were arguing about whether or not the faculty should give grades Hap said I don t think the guys would work without competition Lots of them just want to learn enough to get through and they need more than that to be a successful physician *I said 'What is a successful physician?'* Hap said 'Well I don t mean what Brown said about rocks in your pockets Guys I know can t stand him for saying that For me it s to know enough to handle my practice but of course, I don t know what that is yet   Al said vehemently   It s to be dedicated to the practice of medicine [Oct 1 1956 Three married independents]

I walked back from the Union to Haworth Hall with Al Jones He told me he had done work in a hospital with pre-op cases He said he had not gotten to do a great deal in surgery beyond getting instruments for the doctor and preparing patients physically and mentally for their operations *I said Does this mean you want to be a surgeon?* He replied 'Well, I m very idealistic about medicine I feel very strongly about medical ethics I don t know yet because I haven t seen enough but I don t want to be a surgeon if I m going to mess up anything I ve seen some of these guys in hospitals messing things up Money is the worst thing in medicine, if you want to know what I think [Sept. 14 1956 Married independent]

After anatomy lab I stayed with Harvey Stone while he was scrubbing up Harvey said, "You know we were talking it over at the (fraternity) house last night We were wondering what it would be like to flunk out of medi cal school I just can t imagine it because if you went back home everybody would say you had failed *I said Do you think it is more important than flunking out of other schools?* Harvey said   Oh yes You know medical school is a kind of little plateau it s the very tops in most people s minds   I think it would be harder to go back and face all those people talking about you than it would be to stick it out here even if you were pretty unhappy here I don t think many people have the guts to take social pres sure of that kind We ve got so much at stake here it really isn t funny [Oct 2 1956 Married fraternity man]

It is readily apparent in the selections above how little the interviewer has to ask to keep informants talking if his timing and questions are sound Some informants of course, are less talkative than those above nevertheless

certain types of brief comments and questions tend *to keep informants talking* The following is a brief list of such comments and questions, which should suggest still others to readers

> "You mentioned   *What are your reactions to it?'*
> 'Un huh'
> 'What about it?'
> "How'd you feel about it?
> "That's interesting."
> Tell me more '
> 'Is that all?'
> 'Nothing more happened?'
> 'Why do you think so?"
> "And what happened then?'

Question asking is an art that must be practiced until one can ask the right kinds of questions spontaneously *at the proper moment so as to draw out* the informant's attitudes and understandings fully In an excellent article, Roeper and Sigel (1967, pp 88–89) suggest how this process can be utilized, even in measuring several dimensions of young children's cognitive functioning multiple classification, reversibility, and seriation

> *Double Checking* As an outsider, the task of any interviewer is to encourage a full revelation of his informant's knowledge of and reactions toward those matters of concern to the interviewer Discussions in all previous sections have presented suggestions that should enhance this process.

Our bias has consistently been reiterated, namely, *that a person is more likely to reveal his true feelings under natural conditions* rather than when being interviewed formally If the investigator can piece together an off guard comment yesterday with a casual remark today and an unconscious aside tomorrow, all on the same topic, greater attitude consistency is often indicated than with the most reliable of questionnaires. *The reliability of attitude expressions in normal conversation can be determined readily* by pairing remarks made about the same topic on two or more occasions.

The validity of direct measures of subjective variables is always somewhat uncertain *The extent to which the administration is adequate, the administrator trustworthy to respondents, and social acceptability tendencies controlled, to that extent will the procedure have validity.* But with many individuals it is often difficult to tell whether their verbalized reactions are their true ones Clues are not always present to indicate whether an individual is expressing his real responses or whether he is merely repeating what he thinks the investigator wants to hear.

Considerable evidence can be found to support our notion that data obtained by naturalistic rather than direct methods are more revealing of the

true subjective state Powdermaker (1966, p 166) reports little success in spite of obtaining a good deal of acceptance by the Black community when questioning the adults about their contacts with Whites When one person was questioned directly, she said that she had had no special dealings with Whites when she was young yet, when she was expressing hopelessness about the biracial situation in later conversation, she told the interviewer in vivid detail about how, at the age of ten, she had seen her own father shot down by the white overseer for merely replying to an order to work in another part of the field, 'No, it is too wet over there"

Becker et al (1961) reports that students entering medical school with an idealistic, long range perspective toward the profession continue to reflect this attitude in direct interview responses throughout their training, even in the face of conflicts with other emerging perspectives This long range perspective can be summarized as follows (Becker, 1961, p 72)

1 Medicine is the best of all professions
2 When we begin to practice, we want to help people have enjoyable and satisfying work, while upholding medical ideals We want to earn enough money to lead comfortable lives, but this is not our primary concern

Having substantial amounts of both field notes and direct interview data, Becker found numerous discrepancies in the conclusions reached from these two data sources when they were analyzed separately For example, criteria used by students in choosing a specialty and planning the kind of practice they hoped to have eventually are summarized in Table 5 2. Inspection of Table 5 2 shows that the less socially acceptable criteria (money and hours) are not so likely to be expressed under direct questioning as during ordinary conversation

Social psychology is replete with other evidence of the inaccuracy of much information obtained through direct questioning For example, in one study (Jahoda et al, 1951, p 154), 13 percent falsely claimed to have voted in a national election and 28 percent in a local election Another finding was that approximately a third of those who claimed to have contributed to the community chest had not done so

Important in concealed as well as direct interviewing is the phrasing of questions Goodnow[2] found that certain statements such as tell me more and why do you think so?" tend to keep lower-class children talking, whereas "How do you know? and other phrases that make them feel their previous responses were not acceptable inhibit further conversation Another authority suggests starting with factual and easy to-answer questions (Warren, 1965)

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[2] Jacqueline J Goodnow, George Washington University, personal communication

TABLE 5 2   STATEMENTS OF CRITERIA USED BY MEDICAL STUDENTS
IN CHOOSING A FIELD OF SPECIALIZATION

Statement of Criteria for Specialty	Percentage Used FIELD WORK	INTERVIEWS
Make adequate money	14	4
Convenient working hours not too much work	17	9
Close pleasant relationships with patients	13	9
Great prestige with public or colleagues	2	3
Exercise medical responsibility	4	17
Great intellectual breadth	34	27
Medical problems manageable	4	10
Demands special skills or traits	5	13
Requires long residency	3	2
Arouses nonspecific positive or negative feelings	2	6
Requires large city living	—	—
School experience in specialty was good	2	—

SOURCE Adapted from Becker et al 1961 p 407

The Sears team (Sears et al 1957 p 21) had several ways of combating
stereotype response tendencies (1) providing face-saving phrasing (exam
ple Do you ever find time to play with Johnny just for your own pleasure"
rather than Do you ever play   ?) (2) assuming the existence of nega
tively valued behavior (example In what ways do you get on each other's
nerves? instead of Do you ever get   ?") (3) making a wide range of
answers appear socially acceptable (example Some people feel its very
important for a child to learn not to fight with other children and other
people feel there are times when a child has to learn to fight How do you
feel about this?') (4) pitting two stereotyped values against each other
(example "Do you keep track of exactly where Johnny is and what he is
doing most of the time [careful mother] or can you let him watch out for
himself quite a bit [independence training?]")

Determination of both stability of beliefs expressed in conversational inter
views and data reliability can be accomplished only by asking similar ques
tions and listening for comments on the same item by the same respondents
at different times Likewise, validity checks can be made by quizzing different
people about the same phenomena Determining social-class membership
of Yankee City residents for example, was accomplished most thoroughly
by taking the word not of one but usually of several informants for each
person Statements that the Greens are people who pretty much run in the
same set as the Browns were often checked later by separately finding out

from the former whom they saw a good deal of and then by double-checking the same kind of information from the latter family (Warner and Lunt, 1941) When this rating by matched agreement method was applied to Jonesville, with the social-class status of 340 persons being identified by one or more of 10 selected residents, there was overwhelming agreement among judges Of the 426 pairs of "mentions" (the same person being rated by two judges), 95 percent were in agreement as to social-class standing (Warner, Meeker, and Eells, 1960, p 65)

The skill of the interviewer is especially important in double-checking attitudes, for once respondents have taken a position on some matter, they are likely to be defensive about this viewpoint The tendency to affirm one self through attempting to validate the correctness of one's belief system is a strong one, as Festinger (1955) points out, and, if an interviewer directly challenges an informer's already expressed beliefs, he is likely to arouse defenses and obtain only distorted subjective data When an attitude has apparently changed, it is not recommended that the informant be con fronted directly with the fact of this change, rather, he should be questioned either about his earlier or his present reactions and the conversation continued until reasons for the latter are made clear (Gaudet, 1955, pp 428–432) Quite often when an attitude has been changed, furthermore, the first response to a question about it is incomplete because the respondent assumes the interviewer knows the reasons for his change He needs to be drawn out about it, even though subtly Otherwise, he does not know that the interviewer is interested in the details

The art of double checking is one of knowing how to bring up a subject a second time in such a way that the informant reports again on essentially the same matter that was noted earlier As he thinks about additional questioning, the interviewer notes mentally whether or not the basic report is the same, and if not, in what ways it has been altered Quite often this doublechecking process can be introduced rather naturally as a request for further information or elaboration on a prior discussion (example 'I've been thinking about what you said yesterday How did you feel about not being asked to the Thompson's party?') The more that double checking can take the form of ordinary conversation, the more valid it is likely to be

Recording and Processing Data One of the major limitations of naturalistic data generally, and of conversational interview material particularly, is the difficulty present in recording and processing Unless great care is taken in note taking and record keeping, later attempts at quantification and interpretation cannot possibly meet ordinary scientific standards The multiplicity of uncontrolled variables and lack of context standardiza

tion that characterize naturalistic studies make them scientifically suspect anyway, and when these problems are compounded by inadequate record ing and incomplete coverage, such studies do not legitimately represent science Under such circumstances, replication is impossible and sound pre diction cannot be expected Complete and objective recording and accurate processing are essential

The type of recording of course, varies with the purposes of the investi gation, the types of data needed and the activity of the participant role In general, the same rules apply to conversational interviewing as were stated in Chapter 4 for anecdotal and other types of observational data First, there should be as complete and objective a recording as possible of what, how, and under what circumstances statements were made Such recording demands both careful mental noting at the time of the original conversation, a schedule that permits private and uninterrupted recording immediately afterward and prior to contacts with other informants or to oral reporting of what happened Although Smith was in a position that permitted him to take concurrent field notes from his desk in the back of Geoffrey's classroom (Smith and Geoffrey, 1968, pp 3–16), he made it a practice to complete both an objective account of what happened that day and his running summary field notes and interpretations prior to talking with the teacher about it and prior to the next day of observation Many of the observer's daily interviews with the teacher, therefore, consisted of questioning the latter about previously recorded events in order to find out what the teacher was thinking about as he took various actions

Although a bound notebook may be the best vehicle for ensuring that basic raw notes be recorded sequentially, the utilization of loose-leaf note-books and/or files for organizing copies of pages that bear on the same topic is highly useful during the analysis stage In most field studies today, analysis is carried out concurrently with observation, although data and interpretations are either kept or identified separately in records Early hunches and inter pretations serve as working hypotheses for further data-gathering in such fashion as to permit systematic verification or refutation of them (Geer, 1967)

The primary feature of any procedure used in analysis of conversational interview materials is codification Once data are classified in some systematic fashion, comments that bear on the same topic, or are classified the same for some other reason, can be examined together to see what they look like collectively The interpretative process is both deductive (when materials are being codified according to some system of categories) and inductive when such a system is under development. Inductive processes are used also whenever generalizations are achieved on the basis of examining an assort

ment of comments made on different occasions in various settings that seem to exemplify some common theme

Such content analysis can be accomplished at several levels Early studies consisted of little more than word counting of various types of terms More recently it has been used to determine the feeling tone of a communication, the semantic nature of material, and the intent or motivations of respondents Ample evidence exists to indicate that these first two levels of analysis can be accomplished reliably and validly, whereas the third level of inferring intent or motivation is often lacking such precision (Fox, 1969, p 647)

The first task in a content analysis is to select the unit of content to be classified, that is, the total response or particular phrases or words that make it up Next, a set of categories is chosen or developed which are related to the primary questions or hypotheses under investigation If feeling tone is being studied, for example, a set of positive, negative, and mixed or neutral categories might suffice Raimy (1948) used such a set to code each self referent remark made by a psychotherapy client during the course of therapy The unit to be coded was everything of this nature said by the client between two statements by the therapist

The set of categories is then tested out on material in order to develop a specific rationale for guiding the placement of all responses in a consistent fashion The category system becomes refined as it is tested, and coding instructions are elaborated and standardized Once this stage is reached, reliability needs to be established by having other coders classify material independently and determining the percentage of agreement This formula (Fox, 1969, pp 646–679) is merely

$$100 \times \frac{\text{numbers of units of data coded identically}}{\text{total number of units of data coded}}$$

Selection of a satisfactory category system is not easy because of the rather unlimited possibilities It is necessary to keep in mind the whole scope of an investigation while examining the nature of concrete statements at the same time Inspecting data closely usually forces a substantial revision of any preliminary classification scheme that has not had considerable tryout with similar data

The starting point for selection of a category system often requires placing oneself in the frame of reference of the respondent Williams and Smith (1949, p 77), for example, developed the following list of potential categories by merely considering what an infantryman was up against as he moved into the open in search of the enemy, with mortar and machine-gun fire close by They also considered what factors might help offset these stresses. Categories chosen were—

1. Threats to life and limb and health
2. Physical discomfort
3. Deprivation of sexual and concomitant social satisfactions
4. Isolation from accustomed sources of affectional assurance
5. Loss of comrades, and sight and sound of wounded and dying men
6. Restriction of personal movement
7. Continual uncertainty, and lack of adequate cognitive orientation

8. Conflicts of values
   (a) Military duty versus safety and comfort
   (b) Military duty versus family obligations
   (c) Military duty versus informal group loyalties
9. Being treated as a means rather than as end in oneself
10. Lack of privacy
11. Long periods of enforced boredom, mingled with anxiety
12. Lack of terminal individual goals (short of end of war)

Factors to offset the stresses were—

1. Coercive formal authority
2. Leadership practices—example encouragement
3. Informal group
   (a) Affectional support
   (b) Code of behavior
   (c) Provision of realistic security and power

4. Convictions about the war and the enemy
5. Desires to complete the job by winning war, to go home
6. Prayer and personal philosophies

Codification makes possible the quantification and the empirical testing of working hypotheses The Becker et al (1961) study of medical students provides numerous examples of this process. Classification of field notes during the early weeks of training revealed solid empirical evidence that beginning medical students have a widely held perspective, namely, that they should try to learn and retain all medical knowledge to which they are exposed (see Table 5 3).

That this initial perspective was beginning to be replaced as early as the second month of school by a second perspective, namely, "You can't do it all," was readily apparent from further classification and counting of the number of statements and acts reflecting each perspective (see Table 5 4).

Further data indicate that the provisional perspective was ultimately replaced by a final one during the last half of the first semester. By classifying the respondents in terms of fraternity membership, furthermore, the investigators found that this third perspective, namely, "We need to know only what the faculty wants us to know," becomes predominant first for fraternity and later for independent students (Becker et al., 1961, p 152)

TABLE 5 3   FREQUENCY OF OBSERVED WORK ACTIVITIES
             AND STATEMENTS ABOUT WORK WITH (+)
             AND WITHOUT (−) INITIAL PERSPECTIVE
             (SEPT 10–OCT 3, 1956)

Week of School	Statements +	Statements −	Activities +	Activities −	Observations
September 10–14	16	1	0	2	19
September 17–21	29	3	20	5	56
September 24–28	25	6	8	5	41
October 1–3*	16	2	18	0	36
Total	86 (57%)	12 (8%)	46 (30%)	8 (5%)	152 (100%)

* The observer did not go to the medical school October 4 and 5 (Becker et al, 1961, p 99)

TABLE 5 4   FREQUENCY OF OBSERVED EXPRESSIONS OF INITIAL
             PERSPECTIVE AND PROVISIONAL PERSPECTIVE
             (SEPT 24–OCT 12, 1956)

	Sept 24–Oct 3 STATEMENTS	ACTS	Oct 8–12 STATEMENTS	ACTS
Initial perspective	41	26	8	21
Provisional perspective	17	0	31	6

SOURCE Becker et al., 1961, p 128

The utilization of sociopsychological theory to help organize and interpret field notes is well illustrated in the Smith-Geoffrey study (1968) The influence of both Homans (1950), who places stress on activity, interaction, and sentiments in the analysis of group functioning, and Festinger (1958), whose theories of cognitive dissonance are well known, can be seen in Figure 5 10 Decision making theory is also drawn on quite extensively in Smith's and Geoffrey's attempt to construct a general model of teaching (Smith and Geoffrey, 1968)

Once material is properly coded according to categories that reflect theoretical dimensions of some sort, quantification is relatively easy Quite often with the emergence of working hypotheses in ongoing field studies, time out
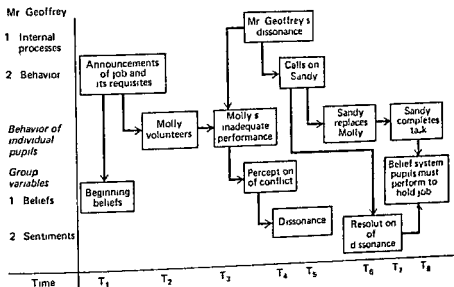
FIGURE 5 10 A PROCESS ANALYSIS OF THE DEVELOPMENT OF MONITOR ROLES AND BELIEF SYSTEMS (SMITH AND GEOFFREY, 1968, p 49)

is taken briefly from regular recording to make frequency counts of certain specific behaviors or comments Illustrations from *Boys in White* (Becker et al , 1961) have already been presented They can be found in the Smith et al study as well For example, Smith (the observer) noted Geoffrey (1968) study as well For example, Smith (the observer) noted 767 instances of "personalized interaction" on the part of Geoffrey (the teacher) one morning by tallying each contact on a form similar to that presented in Figure 5 11 (Smith and Geoffrey, 1968, pp 122–123) [3]

In general, processing of conversational interview data includes theory building or at least theory utilization, codification, ordering and grouping of information, various statistical summarizations and analyses, hypothesis test-ing, and interpretation. At each stage ordinary scientific methodology should prevail

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[3] Personal interaction (verbal and nonverbal contact) was defined this way in the notes

This represents an attempt to obtain quantification of all interactions with in-dividual pupils, by recitations, discipline, and nods. The purpose is not to record who is receiving personal attention, but to measure the amount of contact be-tween teacher and pupil, both at Geoffrey's initiation and the initiation of the children The focus is on the one to whom Geoffrey is attending. When he shifts his attention to another person, that pupil's perception of his attention defines the personal contact, the interaction between them (9/24)

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Pupils	8:40–8:42	Reading small groups 8:40–9:00	9:00–9:00 Geoffrey in and out	Reading Seems 9:07	9:23	others 9:28	9:32 Science	10:15–10:37 Recess	10:36 Language	11:00 Assignment	11:30 History	11:40 Assignment Patrol Boys
Twelve		13			6		7		14	2	5	
Kent		1				4	8		11	2	7	1
Eugen		1			6	1	2		8		7	
Ben		7				4	18		13	2	17	2
Sandy		6			8				4			
Oscar	1					1	6	3	4		7	
Roger			1		6				7			
Jerome			2		5		2	comes in	11:00	2	11:30 lunch	
Lima		3				1		2	8			1
Liberty							2	1	13		6	
Irma		1					51		22		40	
Dick		3			11	1	3		3		11:27 lunch	
Molly							out of class		absent			
Glavin							out of class	1	1 (comes 11:06) 3			
Pansy							out of class				3 (11:30 lunch)	
Pete							3	1	10	1	13	
Susan		6			19		37	2	9	1	18	
Sam		3			10		6		8	2	6	1
Sarah	3		3						11		1 (11:30 lunch)	
Edwin		3					3		6		3 (11:30 lunch)	
Helen			1			1	11		17		14	
Billy		11				2	18	out 11:00	3	6		
Allison	1						1			3		4
Patty		2			2		2		6			
Nonclass teacher					2							
Teachers												

FIGURE 5.11 An Informal Attempt at Quantification of Amount of Personalized Interaction. (Smith and Geoffrey, 1968, pp. 122–123.)

Limitations   Despite the attempts to be scientifically rigorous, naturalistic studies tend to be less than that when compared with carefully controlled laboratory research   The multiplicity of uncontrolled and inter acting variables inherent in field research precludes the same degree of scien tific precision   Even though we have argued that field research, when well done, is scientific—what it often lacks in control it makes up in validity— its limitations should be appreciated

Dalton (1967, pp 86–87) cites six shortcomings

(1) closeness to unique detail may limit attempts to classify data, to formulate problems, and to generalize (2) the researcher s peculiar person ality may attract him to unrepresentative informants or lead him to identify with some inconsequential subgroup (3) his presence may disturb the very situation he is seeking to freeze for study, this hazard increasing when he must barter to enter the research arena—in effect, to promise help in solving problems (4) where he works in a disguised role, he may give associates false clues, for their responses are directed to his simulated role and he may note them down as the *real* behavior without knowing that he was duped by unintended distortions, (5) when very friendly with his in formants, the researcher may unwittingly communicate the answers he wishes, (6) if the researcher is not long in, and around, the area he is study ing, he may mistake an unusual event for a typical one and overstress its importance

To this list must be added limitations specifically related to the interview ing process   One is the lack of standardized questioning patterns. Typically, ing the exact wording of questions, about which the skilled survey interviewer is so cautious, is not the same from one informant to another in conversational interviewing   nor are other contextual variables precisely similar   Although the good field worker usually chooses his words carefully, he cannot meet the same standards with respect to equality of stimulus as he can with those possible with formal instruments   Another drawback, not yet mentioned, is the difficulty of data recording   The most skilled researcher can remember and record accurately only a fraction of what is said in any conversation of more than a few minutes duration   Even when one is in a position to record concurrently, as Smith was in Geoffrey's classroom, the rapidity of normal conversation soon leaves the researcher behind, and he must select from all that is said   Occasionally, rapport is so great as to permit the use of electronic recorders, as Lewis (1961, 1965) apparently did successfully on numerous occasions, but this is hardly naturalistic research   In his recent study of Puerto Rican family life, Lewis (1965) continued to rely heavily on participant observation data recorded after the fact and based on minimal concurrent note taking   Another obvious shortcoming, of course, is the somewhat uncer tain plan for analyzing data and reaching conclusions.

The overall effect of these limitations is to make replication difficult This author tends to agree with Dalton and others, however, who feel that the merits of participant-observer methodology far outweigh the drawbacks Again Dalton (1967, p 87) makes his points succinctly

(1) The researcher is not bound by fixed, and sometimes crippling, re search plans He can adapt and reformulate the design as he sees (a) the insignificance of data he thought important or the need for those he had overlooked (b) old entries closed or new ones that must be dealt with dif ferently, (c) that the problem is changing, is interlocked with others, needs redefining, and so forth Regardless of how rigorously research is planned, these necessities usually arise where effort must be long and involved

(2) The technique enables the inquirer to avoid pointless questions which often cause ridicule behind his back and injure the research in un considered ways

(3) Greater intimacy allows the investigator more correctly to impute motives

(4) He is also better able to get at the best informed informants as he needs them later in the research He has found the implicit analysts among his informants On the basis of their tested leads he can return—as one who has himself been observed and tested—to assay any nuggets of fact they have panned from the stream of action and gossip around them And, related to point (1), not only does he become more able to detect data irrelevant for his problem but he is better able to re-evaluate data he origi nally thought irrelevant. In short, he becomes increasingly able to make better judgments

(5) The participant has a great advantage in getting at covert activity

If conversational interviewing is carried out effectively by participant observers, valid and detailed subjective data can be obtained in content areas that are almost unapproachable through more orthodox, formal procedures The spontaneity of their utterance lends credence to their content to an extent that cannot be matched by the best of formal instruments

OTHER UNOBTRUSIVE MEASURES

Most of the checklists, rating devices, and narrative procedures described in Chapter 4 on observational methodology were designed primarily as unobtrusive measures When they are in use, subjects are often unaware of their subject status The extent to which they are truly unobtrusive is de termined by how successful observers are in remaining inconspicuous in their observing role and in not disclosing to subjects the specific nature of data collected The degree to which they are successfully unobtrusive varies from situation to situation and study to study In some instances, their par ticipant role disguises their observer role almost completely In other instances,

they blend into the environment in a rather neutral manner until their presence also goes relatively unnoticed In still other situations, subjects are observed without any disclosure of this fact that is, from hidden vantage points or without obvious data collection More will be said in Chapter 9 about the manner in which observers operate unobtrusively

The discussion so far in this chapter, furthermore, has highlighted the unobtrusive use of instruments developed primarily for more formal, reactive research It has been emphasized several times that using tests and ques tionnaires and conducting interviews in a less formal manner than that for which they were designed is recommended as a supplementary, not a sub stitute, procedure for their regular usage In the purest sense, naturalistic data collection does not alter either ongoing behavior or institutional opera tion one bit during the period it is being studied Afterward, if the investi gation is focused on significant concerns considerable impact can often be noted as findings are translated into changed behavior or operational im provement

Completing the picture of naturalistic data sources are a number of other unobtrusive measures, some of which have been alluded to already Even though the material presented in Chapter 4 may overlap to some extent with that to appear in this section, the latter has validity in its own right and should be identified separately Particularly, several of the checklists mentioned in Chapter 4 are nonreactive measures The focus of that chapter is on observation—what and how to observe. The focus in this chapter, on the other hand, is on measures themselves, whether or not they are observa tional in nature

Recently, a virtual compendium of nonreactive measures was produced by Webb et al (1966) Webb's influential book is filled with highly imaginative suggestions for gathering social science data indirectly

Perhaps the most frequent use of nonreactive data is in identifying the subjects of naturalistic research Participants are identified not by their names but by classifications of their sex, age, educational background, occupation, social class, race, ethnic membership, religious affiliation, region, and a host of other background variables Many of these variables are measured," if not obvious, once and for all by consulting records, asking persons who would know, or by asking participants themselves at some time other than that in which ongoing behavioral data are obtained The static nature of these data precludes their inclusion in ongoing behavioral data except as identifying information of the person doing the behaving As identifying information, necessary for hypothesis testing and other functions, they are indispensable. Because they are not often measured during the events themselves, they are listed as unobtrusive data that are procured before or after these events

Other kinds of nonreactive data that can be procured routinely include from records, informants, or even by direct questioning

setting and contextual information such as the number and status of people present or the nature of the major ongoing activity at the time when a particular behavioral event occurs Considerable setting information is of such a static nature that it can be discerned, once and for all, at an appropriate time when behavioral data are not being gathered (examples the number of bathrooms in a building, the thickness of carpeting in an executive's office)

Perhaps the major thesis of Webb et al (1966) is that too much social science research is based on a single, fallible method Citing the limitations of questionnaires and interviews when used alone, Webb and his associates urge the simultaneous employment of other methods with different weaknesses for testing the same variables Such a multimethod approach to naturalistic study strengthens the likelihood that findings are not artifacts of the measurement process

> Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced The most persuasive evidence comes through a triangulation of measurement processes If a proposition can survive the onslaught of a series of imperfect measures with all their irrelevant error, confidence shall be placed in it. Of course, this confidence is increased by minimizing error in each instrument and by a reasonable belief in the different and divergent effects of the sources of error   Clearly, the greater the risk that awareness, response set, role evocation, and other variables present to valid comparisons, the greater the demand for independent, nonreactive, and coincidental measures (Webb et al, pp 3, 45)

The complexity of real world events makes theory testing tenuous, even with the best of instruments Only limited aspects of these events, furthermore, can be measured It is therefore proper for the investigator to test theory at as many points as possible, wherever measurement is feasible, if he seriously wishes to discern the full nature of social events or the true state of affairs and, even then, he may fall somewhat short of his goal It is from this vantage point that Webb and his colleagues begin to identify the possibilities available for supplementing interview and questionnaire measurement

If, for example, one were interested in identifying the most influential economic spokesmen in the United States at the present time, not only could people's opinions be sought in traditional fashion, but a number of other means would be available as well Changes in stock market averages following economic forecasts that appear on the ticker tape by the Secretary of the Treasury, the chairman of the Federal Reserve Board, the president of a major bank, the President of the United States, and other notables who comment occasionally on the economic state of affairs would be one means.

The nature of each statement would have to be rated as to how good or bad the economy is, the name of the person making the statement recorded and stock market movements noted over the next few hours and perhaps days Presumably, the most influential spokesmen should cause the greatest fluctuations in market activity Other measures of economic influence attributed to specific individuals could be the number of statements made by them and appearing in the 'What's News' column page 1 of the *Wall Street Journal* in the *New York Times* Business Section, or on the ticker tape itself Each of these data sources is highly limited as a sole criterion of who is the most influential spokesman, but, taken together they constitute a much better information array for answering the question than could be obtained by any single method To the extent that findings converge the question may be considered answered with reasonable certainty To the extent they do not converge, the true state of affairs would seem to be that no single person is widely recognized as chief spokesman

In the preceding example, as with any study proper attention needs to be given to the representativeness of data Just as the people who talk loudly enough in theater lobbies to be overheard may be different in several ways from those who are not so loud, the *Wall Street Journal* has an editorial bias that needs to be taken into account when it is to be used as a measurement source Seasonal and haphazard influences need to be recognized through adequate sampling and scheduling plans. Sources, time, locations, people, and even events should be sampled in systematic fashion, if unobtrusive data are to be considered representative of larger data populations

Although the strengths and weaknesses of unobtrusive measures may be different from those of conventional measures they share certain characteristics Each generates more or less reliable valid data depending on how they are used and quantified Regular statistical restrictions apply to unobtrusive as to conventional data, and quite often underlying statistical assumptions cannot be justified The ordinal nature of much unobtrusive data often makes nonparametric statistical procedures the only appropriate ones Sampling is just as important in one type of research as in the other In brief, the demand for scientific rigor in all phases of naturalistic study is just as great as with traditional research, in spite of the more difficult task The quality of both types of studies depends on sound design systematic data collection and analysis, adequate sampling and other such research procedures that were discussed previously

With these admonitions in mind, several varieties of unobtrusive sources are presented briefly in subsequent sections [4] Under each variety are illustrative

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[4] Unobtrusive, direct observation is generally excluded from these discussions because it was taken up much more thoroughly in Chapter 4

lists of data sources and what they may indicate Many of the specific items have been used in previous research, and when this is the case, references will be cited. Many are discussed in the Webb et al (1966) volume in somewhat greater detail. Others have never been used in published studies, as far as we know. All these lists, of course, are only illustrative of a much larger collection of potential data sources, and the reader may add his own.

Use Traces

Both accretion and erosion traces provide physical data regarding human functioning. The type, location, and quantity of such data indicate the use made of various objects and areas, and often represent excellent naturalistic study sources. An illustrative list of indicators follows along with the variables presumed to be measured, and occasionally are accompanied by a cited finding from a study in which they were used

Dust on library books (recency and amount of use—Webb, 1966, p 38)[5]

Bent corners on library books (amount they have been read—Webb, 1966, p 37)

Dirty edges to pages, smudges, underlinings (differential reading of various sections of encyclopedia—Mosteller in Webb, 1966, p 38)[6]

Glue spot on pages that have been opened after being stuck together by a tiny bit of glue (pages that have been read—Politz in Webb, 1966, p. 44)

Penciled notations on memoranda and notes appearing in margins of letters, reports, and other documents (reader reactions and attitudes—Dalton, 1967, p 84)

Fingerprints (that is, number appearing on special paper for easy detection) on advertisement pages (readership level—Dubois in Webb, 1966, p 40)

Inscriptions on rest room walls (incidence of erotic writings in rest rooms greater in men's than in women's rooms—Kinsey; more sexual and homosexual preoccupation in United States than in Philippines—Sechrest in Webb, 1966, p 42)

Vinyl tile replacement rate in front of museum exhibits (public interest in exhibits—Webb, 1966, p 36)

Noseprints on glass fronts of museum exhibits, age of viewers estimated from location (effect of newspaper feature articles on visitor rate—Webb, 1966, p 46)

Wear of steps in various sections of buildings (amount of human traffic—Webb, 1966, p 35)

Broken windows in school buildings, furniture scratches, wall markings (community pride in school and student morale)

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[5] Abbreviated reference citations, where appropriate, identify senior author and page number

[6] A study by Mosteller cited in Webb et al, 1966, p. 38

Scratches and needed touch up spots on cars (pride in automobile owner ship)

Spots on canoes needing patching after camping trip (care and responsibility of campers in equipment management)

Floor areas in archeological site (population size—Naroll in Webb, 1966, p 40)

Location of Grecian urns the primary shipping container for many products (rise and fall economically of areas in which Greece traded—McClelland, 1961)

Suits of armor (heighth of early generations—Webb, 1966, p 40)

Soil on shoes, blood on clothing arsenic traces in hair, and many other trace indicators used in crime laboratories today—Webb, 1966, p 39)

Trash analysis torn up letters (hidden love affairs), unopened letters (financial four flushing), monthly period of women tenants (relationship with unreasonable demands), empty liquor bottles (amount of drinking —Webb, 1966, p 41)

Litter (effectiveness of antilitter poster campaign—Webb, 1966, p 42)

Paths and worn spots in lawns (effectiveness of 'stay off the grass signs)

Ticker tape or confetti quantity after parades (popularity of astronauts, military or political heroes—Webb, 1966, p 42)

Level of liquor in bottle (alcoholic consumption rate)

Inventory of store products in stock (in relation to store-recorded sales as a measure of employee honesty)

Political leanings of newspapers carried to offices (perceived sociopolitical orientation of top management—Dalton, 1967, p 95)

Property care evidences frequency of cars being washed, lawns cut, walks swept (importance of property upkeep)

Cars in school parking lots (age, style, number as related to student affluence or parental permissiveness)

Local tax stickers on cars compared to economic data for tax areas by Census Bureau (economic strata of shopping center customers—Webb, 1966, pp 39–40)

Locked versus unlocked cars (male versus female comparisons—Sechrest in Webb, 1966, p 40)

Radio stations tuned to when cars left in garages (popularity of programs and stations—Webb, 1966, p 39)

Skeletal analysis and autopsy (reasons for death)

Products and Devices

The traditional data sources of ancestral behavior for the archeologist and anthropologist are artifacts and durable objects of various sorts which indicate indirectly the probable life styles during earlier times. To the student of modern consumer behavior, products and material objects of all sorts

provide equally promising data sources, especially in cultures that manifest highly developed technology. To determine whether Floridians travel more than people of other states, for example, one might count cars with Florida license plates appearing at various out-of-state locations

The automobile, with its wide assortment of makes and styles, provides all kinds of clues to the behavior patterns of its users. What differences are reflected, for example, between American and German personality patterns in the substantial model alterations of Chevrolet and Ford from year to year compared to the unchanging Volkswagen and Mercedes Benz? Are not the increasing numbers of campers and tent trailers on the highways a mere reflection of people's back to nature longings as city and suburbia crowd in? Are not the increasing numbers of do-it-yourself items displayed in today's department stores related to increased specialization in one's real vocation diminishing numbers of unskilled laborers to be hired, and a host of other cultural trends? Similarly, the air conditioner, television set, tape deck, electric can opener, refrigerated truck, TV dinner, bell bottom trousers, and millions of other modern products—each is but a manifestation of cultural trends and human functioning

Observation and listing of the products one owns and uses has long been a major means for one neighbor to judge another. As social critics Packard (1959), Riesman (1950), and Whyte (W. H. Whyte, Jr., 1956), among many others, have pointed out, the artifacts one displays are also the symbols determining one's status in this highly technical society, where one's job performance and other traditional status criteria are no longer readily discernible in one's community. The number of similar make automobiles, similar looking houses and yards, and commonalities in many other material items readily discernible to the casual observer have themselves been used to support the thesis that this is an 'other directed' culture

Several attempts have been made to construct indices based on materials surveys. One of the early indices of social status was derived from the assignment of points to a long list of articles the researcher might see in one's living quarters. A bookcase in the living room counted so many points whereas an alarm clock subtracted points from the total (Chapin, 1947). Obviously, materials indices of this type have numerous drawbacks, especially a localized and temporary validity. The anthropologist knows that living space and conditions are not the most fundamental qualities of family status or social relationships

Despite their limitations, cultural products remain a viable data source for the study of human behavior. Their durability is an especially noteworthy feature from a research standpoint. They can be easily observed, inspected, measured, assorted, and counted, all of which are most commendable qualities in this context

Documents

Also commendable for their convenience as study resources are documents, both public and private Letters and all types of correspondence have long served the historiographer well as primary evidence of early events. They have been especially useful in discerning the subjective state of people's minds concerning those events Diaries desk calendars notebooks, suicide notes, and wills are illustrative of the wide variety of private documents that sometimes become available to researchers and permit in-depth analyses of the person's subjective life Primarily from such documents were Bullitt and Freud (1967) able to formulate their scathing psychoanalytic review of the personality of a man Freud had never met (though Bullitt had) namely, Woodrow Wilson Perhaps the most complete review of the use of personal documents in psychological research is a bit dated, but it is still useful (All port, 1942)

Of course, as with other data sources personal documents do have serious limitations Blumer (1939) identifies them well in his critique of Thomas and Znaniecki's *The Polish Peasant in Europe and America* (1918) He points out that personal documents do not lend themselves to easy statistical treatment, that they are likely to contain considerable deceptive or self deceptive material, and that they are often heavily weighted by passing moods.

Public documents are of course, much more readily available, and yet do not seem to be as widely used as they might be This neglect in this author's opinion, reflects mere lack of attention in measurement books to unobtrusive measures and a dependence on standardized instruments more than it implies inherent weaknesses in the documents per se Obviously, their limitations must be recognized for proper research utilization, as with any instrument In particular, details about their original production need to be examined in order to determine what they really do represent and how authentic they are with respect to their purported coverage Who prepared them, for what purposes, what data sources did they utilize themselves, and generally how did they accomplish the task of document production? These are all important questions to ask in determining the extent to which particular documents might be useful in a given investigation

The following abbreviated list from the thousands of possible citations will serve perhaps to illustrate the possibilities in documentary analysis.

Source	Illustrative Data
Congressional Record	Statements of position on particular issues
Readers' Digest	Mathematics vocabulary in common usage

Source	Illustrative Data
Society section of metropolitan newspaper	Upper middle and lower upper class activities
Telephone directories	Community ethnic group member ship
Salaries of teachers or government employees	Community support
Government agency records (labor, commerce, agriculture depts)	Living trends
Judicial records	Uniformity in sentencing antisocial behavior
Moody s Handbook	Corporate financial structure
Who's Who in America	Nature of cited accomplishments of successful men
Associated Press releases (available in complete form at the National Press Club, etc)	Details of news events of various sorts
Children s books on sale	Qualities of models (heroes and heroines)
Movie announcements in newspapers	Changing taboos and enticements
Want ads	Employer inducements
Federal and state laws	Official societal restrictions
Tax records	Regional differences in patterns of living
Obituary columns	Charity preferences
Picture displays on front of movie houses	Changing taboos and enticements
Mail order catalogs	Apparel vogues, merchandise as reflection of living patterns
Property transfer listings	Commercial activity of individuals
Legislative roll calls	Actions taken by individual legislators
Published speeches	Political, social, economic attitudes
Newspaper headlines	Press bias
City budgets	Perceived value or extent of support of various activities
Change of address forms in post office	Mobility data

Each of the items should suggest additional specific documents for other concrete purposes In spite of the cautions that have already been mentioned and need to be considered carefully as decisions are made with regard to documentary source material, the naturalistic researcher ought to be able to find numerous promising sources for most any study in this increasingly

bureaucratic, record keeping culture The more educated people become, the more documents they produce and the greater the opportunity for documentary analysis In recent years for example lawyer Ralph Nader has been able to make telling indictments about the auto industry and various government agencies from scrutinizing their activities closely with heavy dependency on public documents for his data sources

Routine Records

A special kind of document appearing at increasing rates in institutional headquarters library reference rooms and all types of government agencies are the routine records that are kept of ongoing operations Those open to the public via library reference rooms government agency releases the county courthouses and other archive centers have been described in the preceding section An amazing array of primary descriptive data are available about corporations associations schools hospitals agencies, and numerous other institutions from various reference works *Mooly s Statistical Abstracts*, encyclopedias, etc Inventory and production data sales and earnings number of personnel employed and other information vital to an analysis of institutions appear in standard reference works and are immediately available to any researcher willing to track them down

For any kind of in depth study of particular institutions however, especially of behavioral practices, publicly released information is usually quite limited Instead, however a large amount of potentially useful information is available in the form of routine operational data, if the researcher can only gain access to it While such data are not generally open to public inspection they are regularly used by management for institutional decision making and therefore are not completely withheld from those interested in institutional analysis An illustrative list of routine records appears below

Kind of Record	Variable Being Measured
Absentee and tardiness records	Work habits or motivation
List of unsolicited complaints/commendations about various salesmen	Customer reaction
Military re-enlistment and longevity figures	Morale indicator
Pay increase and promotion lists	Perceived value of individuals to an organization
Number of people one supervises	Measure of management responsibility
Production and other output figures	Performance of individuals, departments, etc

Kind of Record	Variable Being Measured
Sales contest records	Selling effectiveness, effectiveness of incentive plans
Sales slips, at Delegates Lounge bar in UN	Tensions indicator (Webb, 1966, p 89)
Peanut sales at ball games	Excitement indicator (greater after than before seventh inning—Webb, 1966, p 92)
Sales level of consumer goods	Effectiveness of display location, advertisement, or style of packaging
Air trip insurance figures	Public concern pre and post air crashes
Sales of layettes by colors (blue or pink)	Sex preference in different social classes
Sale price of autographs	Popularity indicator
Soap usage rate (surface level in liquid containers, amount of water displaced by bar of soap)	Value of cleanliness to personnel (Webb, 1966, p 89)
Admission rate in psychiatric hospitals	General overall anxiety in culture
Club membership list	Indicator of segment of society involved
*Committee reports	Institutional modification attempts
*Board minutes	Official institutional policies
*Actuarial records birth, baptismal, death records, marriage licenses	Comparative demographic data (occupation, religion, time of day, cause of death, etc)
Cemetery documents, burial lot records	Family membership

* May or may not be open to public inspection

As pointed out earlier and stressed extensively by Webb et al (1966), no claim is made for utilizing routine records as primary or sole indicators of human functioning rather, they are used as nonreactive and more subtle measures, perhaps, than the direct observational interview data that constitute the principal means of conducting naturalistic studies In each instance, furthermore, investigators need to determine how accurately the records they plan to use were constructed originally The same measurement standards for reliability and validity are as applicable to routine records as to tests and other data-gathering instruments Many private and institutional records may be a valid means of assessing various human factors, but the quality of such records varies considerably from institution to institution or place to place A human factor analysis can be only as good as the original data on which

it is based The would-be investigator should in each instance determine the soundness of his original data so that he can govern his design and interpretations accordingly

Indices

Kerlinger (1964, p 616) points out that the term *index* has two meanings In one sense, an index is an observable phenomenon that stands for a less observable phenomenon It is a measurable indicator of some particular characteristic Thus, the score on an achievement test may be considered an index of how much someone knows, or the number of rooms in a house may be one index of the owner's socioeconomic status

In a second and probably more useful sense, an index is a number that combines two or more numbers Often it represents a series of observations, In this sense, all averages and summary statistics are indices. Quite often, indices are composites of different measures a combination of different variables

The importance of indices of this second type is in their conversion of raw data into a form for making meaningful comparisons of phenomena They simplify data and provide a basis for relating data obtained under differing circumstances or with different observables.

Generally, they take the form of quotients, that is, ratios and proportions Percentages represent a common variant of the latter

Selecting or deriving an index begins with deciding which variables need to be taken into account before raw observations can be compared If, for example, one wishes to compare the safe-driving patterns in various towns, one might select the number of accidents during the preceding year as a major index variable It would lack validity, however, unless it was also related to the density of traffic in these towns. The combination of these two variables into a ratio or proportion would provide a meaningful index.

It is essential that the accuracy of measurement of each variable be determined and an appraisal made of the extent to which extraneous influences might affect it Brandt (1958), for example, developed an accuracy of self estimate index by having children predict whether they would do better or would not do as well as each of their classmates on a number of academic and physical performance tests. Following completion of the tests, the percentage of correct predictions was calculated for each youngster on each task Because of the essentially normal distribution of academic and physical performance scores youngsters at each end of the performance distribution had fewer difficult predictions to make than those in the middle As a result, it was also necessary to compute ease of judgment scores, based on these performance differences, to see how much of the variation in the accuracy

of self-estimate scores was accounted for by the difficulty of prediction In this instance, less than 4 percent of the variance was accounted for by "ease of judgment," and so the accuracy of self estimate score was presumed to be at least crudely indicative of self knowledge

Obviously, unobtrusive data are seldom useful in their original form Usually, they must be converted into ratios, percentages, or some other form that provides a sound basis for comparison

This conversion often takes into account appropriate time and opportunity variables The numbers of counselors in high schools are almost meaningless statistics, for example, unless they are related to some relevant base variable, such as size of student population Then a simple ratio of counselors/students permits comparison of one high school with another in terms of the amount of guidance that students might reasonably expect Another relevant factor in this particular index would be the amount of interviewing time that the counselor could allow from the total complex of his other duties Many nominal counselors have only part time guidance assignments and must combine them with extensive teaching clerical, and administrative duties A sound 'guidance availability" index could not be constructed without determining the proportion of time that counselors devote to actual guidance roles and without converting raw numbers of persons into full time equivalents

This number of full time guidance equivalents in each school can be referred to as the subject variable and the number of students as the base variable The subject variable is that with which the analysis is mainly concerned whereas the base variable is that which needs to be related to it Hauser and his associates illustrate this point by suggesting that, in a study of population concentration, the subject variable would be the number of persons in an area, and the base variable would be the size of that area (Hauser et al , 1956, p 4) In a ratio index the former is likely to be placed in the numerator and the latter in the denominator

Quite often, indices also have to be corrected for seasonal variations or other biasing factors before they are called change or difference measures. In comparing the crowd appeal of various museum exhibits, for example, Webb et al (1966) suggest that physical trace indices need to take into account the variations in size of crowds and in location of exhibits in relation to building entrances Certain exhibits have a head start because of their location When large crowds prevail, there is less likelihood than when small crowds prevail that distant exhibits from entrances will have as high a proportion of the total visitors seeing them because of the congestion Similarly, because of the tendency for people to turn right after entering the building a somewhat higher rate of visitation will prevail for exhibits to the right than those equally distant to the left, even when corresponding exhibits have

similar appeal Erosion E or accretion A amounts such as the number of replacement tiles in front of particular exhibits would usually represent the numerator, and time T would be the denominator in such an index but various fractions should also be used to correct for location L crowd C weather W, season S, and other influential variables The index might look as follows

$$\frac{E \text{ (or } A)}{T} LCWS$$

Values for the correctional variables are likely to have been derived from previous observations in the $(E \text{ or } A)/T$ of all exhibits under varying conditions of each of the other factors

Indices perform many functions Most generally, perhaps they are widely used in decision making They provide routine feedback to administrators, permitting evaluation to be carried on systematically and continuously with ongoing operations

In assessing how fast American involvement in the Viet Nam war was being cut back in 1969, the American public had difficulty finding a suitable readily agreed upon index Troop withdrawal announcements alone were not sufficient, as many people were uncertain whether or not some soldiers were merely completing their tours of duty and were being replaced by others Likewise, the type of duty was relevant as cutbacks in support rather than front line personnel meant quite different things Widespread acceptance of an index of American military commitment would undoubtedly have lessened the confusion that surrounded this controversy and made clear the administrative options

Another recent example of a major social problem that has demanded almost continuous decision making on the part of government officials has been school desegregation Obvious indices of the degree of desegregation in various institutions have been widely used, such as the percentage of Blacks in each school yet these oversimplify the problem and cannot be applied equitably in many situations The complexity of this issue and the need for several kinds of indicators were apparent in ordinary news releases such as that below

SIZE UP BY HEW

In spite of all the controversy and confusion, HEW officials remain confident that this school year will bring the biggest one year increase yet in desegregation in the South They draw this picture

• Last year 20 per cent of all Negro pupils in the South were in schools more than half white in enrollment This year they expect nearly 40 per

cent And this does not count thousands of Negroes in schools that have been desegregated to the extent that they contain some white pupils

• Of all the school districts in 17 Southern and Border States, 89 per cent are already in compliance with the law The remaining 11 per cent are mostly districts in which Negroes outnumber whites—and white resistance to attending predominantly black schools is strong

• About 150 districts still have no desegregation whatever, 115 districts are cut off from federal aid, and others are facing lawsuits

The battle to desegregate—or integrate—America's schools is far from ended And racial strife continues Americans are finding that it is not a simple job to police race relations from Washington, and that civil rights laws do not necessarily bring civil peace

(U S News & World Report, Oct 6, 1969)

If the purpose of school desegregation is to provide equal educational opportunity for black and white children throughout the nation, the task is complicated by sharply different residential housing patterns and unequal tax resources, to mention only two pertinent factors affecting progress toward this goal, which school officials can do little about Many indices have been utilized to show the degree of inequality pupil teacher ratios expenditures per pupil newness and extent of buildings, equipment, and curricular materials, educational and experience level of teachers No doubt, HEW decisions to cut off federal aid to particular school districts have been made only after examination of several indices covering various dimensions and situational factors

Another common function of indices is in theory verification Hypotheses tied specifically to unobtrusive data can be generated from many behavioral theories Webb et al (1966) found several such examples in their literature search As a test the boy babies were preferred more than girl babies, Winston (cited in Webb, 1966, p 57) studied birth records and found, as he predicted, that the male to female ratio of the last child born in families estimated to be complete was greater than the ratio for all children in these same families Middleton (cited in Webb, 1966, p 58) utilized the size of families presented in magazine fiction as a *fertility value index* of a particular period of time He compared data from this index with actual fertility levels obtained from birth records The incidence of premarital sex relationships in different societies was determined by Christensen (cited in Webb, 1966, p 59) from the interval between marriage dates appearing on licenses and birth dates for first child appearing on birth certificates Ianni (cited in Webb, 1966, p 82) constructed a mobility index from city directory information, and Dollard and Mowrer (cited in Webb, 1966, p 104) developed a measure of tension called the Discomfort Relief Quotient, which can be derived from written documents Each of the preceding examples shows the utiliza

tion of theory to derive specific hypothesized relationships among various kinds of nonreactive data Indices developed during this process serve to provide the data for testing hypotheses and supporting or refuting a theory in turn

In behavioral science indices are usually derived from a theoretical relationship between two variables One is often a static nonreactive measure that is readily quantifiable the other a predicted human trait that is much less measurable Previous research has sometimes established a relationship between these two variables predictor and predicted The correspondence between past research and proposed studies should be determined before the predictor variable is used as an index of the presumed trait in naturalistic study Thousands of presumed trait indicators might be derived from the results of previous investigations in which low but significant correlation was found For example family density probably has been found to correlate significantly with neurosis at the +0 10 to +0 30 level in various studies of community mental health A resulting neurosis index to be used in natural naturalistic studies would by itself lack predictive power The naturalistic researcher should therefore determine the likely power of each indicator so derived, by studying previous research and selecting only the most powerful indicators, and then using several that are relatively independent of each other Again the importance of multiple measures of the same presumed trait is stressed

Much argument exists over which indicators are the appropriate ones to use The notion that an investigator can prove anything with statistics is often demonstrated merely by selecting particular indicators In determining the state of the economy, for example one could find dozens of relevant indices published routinely by the U S Labor and Commerce departments such as money supply business inventory industrial production, and wholesale prices Yet the effectiveness of attempts by the Nixon administration to curb inflation has always been conjectural Newspapers and news magazines have constantly published articles and editorials debating the well being of the economy and the extent to which inflation runs rampant (see, for example, *Business Week*, Oct 4 1969) Lack of agreement on which indicators to use and sometimes even on the way particular ones were figured have been at the roots of most arguments The discrepancy between two presumably similar measures of the economy namely national income and gross national product, rose from only $1 6 billion in mid 1968 to $5 8 billion in mid 1969 Likewise the Federal Reserve Board calculated the money supply via one procedure to be growing at a pace of only a modest 2 4 percent during the first seven months of 1969, whereas it also produced a second money supply index showing an unsupportable 4 percent rate for the same period (*Wall Street Journal*, Sept 22, 1969)

If economic statistics are confusing, social indicators are even more be
wildering Despite the fact that some 19,000 people in Washington work
only on statistics, determining how much money is spent by various agencies
for what purposes, seldom are the results of expenditures reported Acceptable
indicators covering the state of mental health, the extent of social mobility
of various ethnic and racial groups, or even the amount of water and air
pollution in various areas have not yet been delineated sufficiently to permit
adequate appraisal of social trends Legislation is underway to correct this
omission and establish the governmental machinery for producing a social
report routinely, just as the Council of Economic Advisers publishes an
economic report A preliminary government document (U S Department
of Health, Education, and Welfare, 1969) has already appeared, which
shows the types of indicators that are under consideration For example, an
index of free-of-bed disability days per person per year is constructed as
one measure of the state of public health, certainly an improvement over the
crude life-expectancy measure traditionally used

In selecting or devising indices for naturalistic study, the investigator might
do well to follow the suggestions below

1 *For each of the variables being considered, determine the theoretical rele
vance to the primary behaviors and traits under investigation* Select those
that are most consistent with the underlying rationale of the proposed
study

2 *Utilize the several indices often bearing on different outcomes* Naturalis
tic research is often focused on several primary variables, and so a wide
assortment of indices can be expected There are usually many outcomes
important to the decision maker, and a multidimensional criterion is pre
ferred to a single one (Cronbach, 1969)

3 *Reconsider the validity of the raw data underlying each variable* Indices
often possess an aura of scientific precision that is not justified by the
measurements on which they are based The *Gourman Report*, for exam
ple, includes ratings of 100 to 130 factors on well over 1000 colleges,
ranging in size and function from tiny colleges to New York University
Quality of instruction is one of the factors included in this gigantic evalua
tion effort Anyone in higher education knows how difficult it is to obtain
objective measures of instructional quality, even within a single school
The impression created by Professor Gourman's systematic format is that
such measures really have been taken of each of the schools included A
careful reading of the short description presented of procedures followed
in obtaining the ratings suggests instead that the major factor determining
the quality of instruction rating was the percentage of faculty who had
been teaching for at least a decade subsequent to receiving their doc

torates Such a criterion is debatable to say the least even as one of many
indicators but as the primary one utilized because it is readily obtainable
seems highly unjustified

In similar fashion the raw data from which indices are derived need to
be inspected for possible systematic bias Safety crusader Ralph Nader
claims that the National Safety Council's figures are suspect for example
because they provide an incentive for incomplete reporting by giving
awards to companies with the best safety records (*Wall Street Journal*
Aug 5, 1969) Blau (1967 pp 47–48) reported a similar bias uncorrected
in an index of competitiveness among employment agency interviewers
The bias resulted from interviewers not disseminating information about
job openings to their colleagues in order to increase their own placement
rates among people they interviewed

Check the empirical evidence that undergirds indices In how many
studies have they been used and what have been the findings? What
populations were sampled? How much overlap exists with other factors?
How high is the degree of relationship among criterion factors? Only
from a careful analysis of background studies can indices be chosen and
interpreted wisely Even if a relationship has been reported between
family density and neurosis for example drawing the distribution curves
for the high-density and low-density families on the same neurosis scale
would highlight considerable overlap between these groups and show
that, even in the former group the great majority were not seriously
neurotic

Select or develop indices based on direct performance measures As Swett
(1963) points out managements attempts to control indirect manu-
facturing costs by applying various established ratios to direct labor or
by utilizing general activity indices have failed when they were not
derived from accurate productivity or performance data

In summary, unobstrusive measures should be used in concert with other
measures to provide independent validation data Clearly the greater the
risk that awareness, response set role evocation, and other variables present
to valid comparisons, the greater the demand for independent, nonreactive
and coincidental measures (Webb et al 1966, p 45)

Traditional instruments as well as indices and nonreactive data are gen-
erally useful in naturalistic study Tests, questionnaires and interviews that
together account for a high percentage of the data produced by past behav-
ioral science, can continue to be useful to the naturalistic researcher They
can be administered in conventional fashion and/or they can sometimes be

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[7] Despite this seeming deficiency, no overall indictment of this very useful volume
is intended

inserted into institutional operation less conspicuously and in a more casual manner to see how responses differ under such conditions In such applications or experiments, there is need to tailor each instrument to fit casually into the naturalistic setting Excuses for giving tests must be manufactured so that research devices seem less like tests Questionnaires, too, must be accompanied by plausible reasons for their completion Interviewing should mean little more than casual conversation in the minds of interviewees

Although observed data remain the primary media of naturalistic study, each of the other procedures covered in this chapter has a substantial place also Webb s thesis is a fully acceptable premise on which to formulate investigative planning—that is, that while single measures can usually be attacked severely for their weaknesses, a collection of independent tests of hypotheses has scientific validity and supports sound investigative procedure (Webb et al, 1966, pp 49–50) It can be added here that such a collection becomes even more authoritative when a variety of data gathering procedures is utilized

CHAPTER 6

Four Naturalistic
Cases

Even though numerous examples of naturalistic research have already been presented the reader has had only brief glimpses of raw data so far and with few exceptions he has not been shown the overall design of studies or the full scope of investigative possibilities. The subsequent three chapters therefore are intended to remedy this deficiency

In this chapter several cases are presented in considerable depth to show the research cycle from problem selection through data collection to findings. The study of a pupil by one of his teachers will be followed by studies of children s recreational groups, of a commercial institution s management practices as it undergoes reorganization and of a large-scale mass demonstration Relatively simple statistical procedures will be employed in the cases selected in order to keep the discussion at an elementary level Obviously, more complex techniques may be applied by consulting standard research design references

Whereas comparative studies call for measurement of at least two, and often many, entities of the same general type, case studies usually are concentrated on one entity at a time A single case study requires gathering an extensive amount of information on an entity (for example, an individual or an organization) Many variables are tapped and measured, usually at several points in time Data are integrated and analyzed frequently, as in social welfare work, for the purpose of achieving some sensible, practical recommendations for improvement of the entity Increasingly, behavioral science is being directed toward the solution of social problems, and case studies provide an excellent means for in-depth analysis of such problems

A particular research effort, of course, may consist of a collection of individual case studies in which similar measurements are taken and the same variables included on each entity It is then possible to look for commonalities across a number of cases and to determine the degree of idiosyncrasy of each individual case Determination of the similarity of the entity under study with other entities of the same type is accomplished primarily by utilizing norm related indices, such as percentiles, wherever possible in its measurement and description Due to the ideographic nature of cases, within entity comparisons are typically made between data collected at different points in time or between different variables The absentee rates, for example, of two departments of a factory might well be compared

As a special type of field study, the case study has certain advantages over laboratory research, primarily (1) greater applicability of findings to existing implementation conditions and (2) greater depth and more comprehensive analysis Whereas the practitioner often disclaims the applicability of nomethetic research findings, proclaiming instead certain precluding features of his particular situation, it is much less easy to ignore data coming as case material from his own institution With regard to the second advantage, it is readily apparent that individual behavior and institutional operation are multifaceted both in their root causes and in their external manifestations Seldom are single variables important enough by themselves to produce sufficient answers to field study questions Quite the contrary—both the individual person and his institutions are highly complex, and multivariable research is almost always essential Case studies represent, perhaps, the most extreme form of multivariable research Typically, a wide array of data are gathered and synthesized before their completion

Case studies are increasingly popular for two other reasons They facilitate an economical development of treatments or programs, and they provide superb instructional material As treatments and programs are tried out on one individual after another, continuing assessment and revision is likely with the result that treatments and programs can be improved considerably, prior to being given a full-scale, experimental evaluation Case studies often

make excellent instructional material, furthermore, by presenting students with real life simulation assignments that require the kinds of judgments they would have to make under actual operating conditions Management trainees, for example can play the executive role with such materials making marketing or other types of decisions on the basis of realistic data from an actual corporation Psychology trainees similarly, can evaluate data on mental patients and compare their judgments with those of persons who actually have handled the same cases

The disadvantages of case studies are those of field studies in general Measurement of many variables is likely to be imprecise Cost, time, and personnel demands are often prohibitive The uniqueness of particular entities is difficult to ascertain without making equally extensive case studies of other entities Their most serious weakness is generally their ex post facto character Much of their data interpretation arises in hindsight fashion rather than being derived first from theory or previous empirical study and then being put to test in a controlled experiment designed for that purpose (Kerlinger, 1964 p 390)

None of these potential weaknesses needs necessarily outweigh the strengths cited earlier, if case studies are carefully conducted High quality case studies are made possible by utilizing independent observers and coders, by selecting materials and events randomly, and generally by preplanning research procedures carefully Even the typically ex post facto quality of studies can be minimized considerably by determining prior to observation what data need to be observed in order to test particular hypotheses While the field experiment clearly permits hypothesis testing it is also possible in a field study In the moratorium study to be presented later in this chapter preplanning for hypothesis testing of a forthcoming event was possible, although in this instance some miscalculations were made. Nevertheless, much of the ex post facto character was eliminated by careful preplanning of what exactly would be observed

THE CASE OF AN INDIVIDUAL

The study of individual persons has been undertaken by numerous specialists, ranging from journalists and biographers to social workers and psychoanalysts Increasingly, psychologists are successfully employing operant-conditioning principles for the modification of individual behavior, and are utilizing single-subject research designs to test their propositions.

Professional journals serving clinical specialists abound in case reports of individuals being treated for some form of mental illness or, at least, maladaptive behavior Entire books report the maladjustments and attempted

treatments of individuals (examples *Rebel Without a Cause*, Lindner, 1944, *Dibs*, Axline, 1964)

Not all these books are scientific reports. Indeed, many are not. Just as the biographer often chooses his data to fit his initial premises, the clinician often selects certain patient commentary and behavior as more important than other material in his diagnostic and prognostic reporting. Seldom does a reader see the uninterpreted raw material from which the therapist builds his case, or even the system by which he sorts out this material for analysis. The impact of the therapeutic' interrogation process itself may be considerable, yet is often undeterminable. Occasionally, abnormalities may originate as much in the mind of the analyst as in the behavior of the patient. Clinical judgment is certainly as much art as science, and the lack of replicability of treatment processes is evidenced by the shift of patients from one therapist to another. It is unfortunate that taped psychoanalytic transcripts are not used more often for research purposes rather than solely for clinical evaluation.

In spite of these shortcomings, scientific procedures have been utilized by clinicians, occasionally to a point of achieving high rigor. Several years ago, for example, Rogers and Dymond (1954) conducted a series of well designed studies on the effectiveness of client-centered therapy. Measurements were made of patient status, both for control and treatment subjects, at four stages: (1) during the initial request for help, (2) following a wait period before the beginning of therapy, (3) at the end of therapy, and (4) in a post therapy follow up several weeks later. Measuring devices included Q-sorts and projective tests designed especially for intraindividual assessment. Comparative data were also obtained on other therapy programs, which produced such findings as the experience of the therapist being more influential than his orientation (Adlerian, Freudian, etc.). Some of Rogers' students (Raimy, 1948, Bugental, 1952) developed objective coding systems and classified client statements made during therapy sessions. Such analysis led unequivocally to the conclusion that (at least for the cases studied in this manner) significant increases in positive self referent remarks and corresponding decreases in self-derogation occurred as therapy progressed. Other changes occurred as well.

More recently, behavior modification specialists have utilized operant conditioning principles to replace maladaptive behavioral patterns with more wholesome ones. The majority of space in such periodicals as the *Journal of Applied Behavior Analysis* is devoted to their reports.

The focus of such specialists is on one person or group at a time. First terminal objectives are stated operationally, so that the desirable behavior is clearly defined and treatment success can be readily recognized when it is achieved. Second, entry behavior is carefully measured, usually in the form of a frequency count of desirable and undesirable behavior. This base-line

measurement is used as the comparison point for judging the amount of change occurring as treatment is implemented

Third, effective reinforcers are selected and tried out to see if they actually do produce behavioral change in the person involved Individuals vary in their responsiveness to kind words, monetary rewards extrinsic symbols, candy, and other potential rewards and it is important to find out which ones work most effectively with each client Gathering behavioral data as different potential reinforcers are tested and comparing response frequencies (to the reinforcers) with base line rates permit the therapist to evaluate their effectiveness

Fourth, a reinforcement schedule is selected, based on established operant conditioning principles cost, and the practical realities involved in delivering reinforcement Generally, it is both impractical and relatively ineffective for a supervisor to have to praise every desirable behavior attempt of his underling If he did so, he could concentrate on little else. Although such a schedule may have to be followed in the beginning stages of therapy, variable and less frequent reinforcement schedules are usually used as behavior improves Under such schedules, behavior improvements are more likely to last longer and transfer more readily to nontherapy situations than they will under continuous reinforcement schedules (Ferster and Skinner, 1957)

Fifth, in most single-subject research, attempts are made to discontinue reinforcement and to reverse behavioral patterns away from terminal objectives and back toward base-line rates in order to determine whether the reinforcement schedule or some previously unrecognized factor is responsible for the changes that have taken place

These five steps have been enumerated to highlight the need for careful, accurate observational data during several stages Quite often they are gathered naturalistically in ordinary life settings and without the subject's awareness that his supervisor, teacher, parent, or friend is attempting to change him Even in therapy situations that the subject has initiated, he may not be aware, in any precise sense, of what his therapist is doing To the extent that he is unaware of the therapist's treatment program, a naturalistic setting exists, for he is unable to vary his responses deliberately, cooperatively or not, in relation to the program

Some of the best examples of naturalistic observational data, therefore, have been obtained by behavior modification specialists Usually, they take the form of frequency counts of precisely defined behavioral patterns

As has been indicated, not all case studies are naturalistic The therapist's office, for example, is not an ordinary life setting, nor is the therapist himself generally in a position to observe his client's behavior outside this setting He can only observe and listen closely as his patient describes his life activities. He can be particularly attentive to word choices, speech hesitations, postural shifts, and other affective clues that provide him with direct

behavioral material to help interpret the verbal content itself, but such behavior, with all its molecular detail, is hardly a substitute for the true responses to life itself, which the therapist misses seeing firsthand

Increasingly, however, behavior modification principles are being utilized by psychologists, teachers, administrators, supervisors, parents, and a host of others in regular life settings as they try to shape the behavior of those in their charge. In contrast to therapists, such practitioners are able to (1) observe regular, ongoing behavior unobtrusively, (2) converse informally with others, listening especially for spontaneous expressions of feelings toward events as they come up rather than eliciting retrospective reconstructions during an interview, and (3) minimize subject defensiveness by not alerting him to the fact that he is under study

To illustrate the study of an individual, the case of Bob will be presented below [1] This case was chosen over possible biographical or psychoanalytic examples because (1) the raw, uninterpreted observational and conversational data could be examined directly, (2) it was generally more naturalistic, with routine as well as dramatic happenings included, and (3) less pathology was represented than would probably appear in a therapy case Bob is a reasonably well-adjusted youngster with the normal problems of a preadolescent His case illustrates in part how much can be learned about the process of development, and the forces shaping that development, by studying a child intensively over a sufficient time period and watching him interact with the people and events that confront him naturally

Bob was selected, instead of an example from the behavior modification literature primarily because more of his total personality is revealed The narrow focus of behavior modification studies is both their strength and their weakness Their concentration is on but a few target behaviors The extent of transfer to other developmental patterns or even other settings than those included in the studies is seldom ascertainable

The case of Bob is representative of a type of study carried out primarily by teachers for the purpose of achieving increased understanding of the children they teach In the process of studying children, they gradually learn to separate fact from opinion in both perceiving and reporting behavior

Beginning in the 1940s and continuing to the present time under the general leadership of the Institute for Child Study at the University of Maryland, well over 100,000 children have been studied by their teachers in the same manner as was Bob Such studies have been conducted as part of regular in-service training programs taken by teachers in their own school systems That such investigative activity has led to substantial change in the

teachers who have participated has been well documented (Brandt and Perkins, 1956) In fact probably no other in-service training program for teachers has been evaluated so thoroughly or with such a variety of instruments.

The overall structure of the program requires each teacher to select one child from his class and keep a running anecdotal record of his behavior throughout the school year. Attempts are made to include anecdotes covering many types of behavior of the child in many settings and to place in his record information from a variety of other sources test scores home visits life-space descriptions conferences with other teachers and adults and work samples from the child himself. Several times during the course of the year particular procedural steps are taken to comb and organize material systematically, in order to test hypotheses or reach conclusions in scientific fashion. Analytical procedures vary according to the number of years teachers have been in the program and are designed to provide increasingly thorough, in depth interpretation. Several excellent sources describe the details of this program and present additional illustrative case material (for example, Perkins 1969 Prescott, 1957)[2]

The writer of Bob's record taught him ninth-grade Latin. She also served as a part time counselor in Bob's school, somewhat broadening the scope of possible situations in which she might observe or talk with him. Bob had attended school in the same district since the first grade so a rather complete record of grades teachers' comments, and test scores was available. However, the bulk of material making up his case was compiled sequentially, as it was obtained during the ninth grade year in the form of narrative anecdotal accounts of Bob's behavior in various situations and of conferences with parents and other teachers. A few of Bob's writings (note to teacher, autobiographical composition) were also included.

The entire record is much too long to reproduce here in its original form, but the excerpts below represent typical examples of the teacher's record. The teacher had already completed two years of child study at the time she started this record and for the most part had mastered the skill of objective reporting.

Sample of Original Data

December 10

When I entered the classroom Bob was standing talking to a group of students among them were Jane Myers and Mike Finkler. When he saw me he rushed over and saluted me, saying Again I say, *Moritun te Salutamus!'*

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[2] A superb example of case materials, with perhaps a greater research flavor, is offered by Stott (1967) He built his entire presentation of normal development around two cases examined in detail and longitudinally

I pretended to choke him, and he said, "Hey, that's my good neck!"

He didn't settle down to work as usual, but was rather talkative—working with David Jones more loudly than usual, correcting David's Latin Twice I asked him to put all four legs of his chair on the floor. He was swinging far back on two legs of his chair.

I passed out the corrected Latin tests—again he tied with Margaret Kopak—101 points out of a possible 104. He busied himself discussing the test with his neighbors

After class was dismissed, I heard him yell loudly, 'Give me that!'

He was angrily going after Mike Finkler—his face was very flushed and whatever Mike had he quickly relinquished.

Out in the hall, as I was locking the door, Bob insisted on reading to me a verse from Jane Myers wallet.

December 12

As I was locking the door after class, Bob came from his locker with a small brown paper bag which he handed to me saying, "Don't open this now, and don't thank me for it in class."

I must have looked puzzled, because he laughed and added, "It isn't a joke Don't be afraid of it; but don't open it here."

I opened it in the counselor's office and found a Christmas corsage of ribbon and ornaments I pinned it on my jacket, and at lunch time, as I was returning to the A building, I passed Bob with a large group of boys. He said loudly, "Where did you get your corsage?"

"I found it! Pretty, isn't it?"

He grinned and said, 'So you did. So you did."

December 13

The class was busily working on translations, when I was startled *to see* Bob precariously perched on the edge of his chair, again with only two of its legs on the floor Rather sharply I said, "Bob!" and with indignation in her voice Jane Myers said, 'He didn't do anything!"

It was so unlike her that I had to laugh, and said, "So now you're Bob's guardian angel?'

Bob proceeded to draw a picture of an angel with horns It looked surprisingly like Jane who wears her hair in bangs which curl two ways

December 14

As I hurried to class, Mr Brown came across the hall to meet Jane and me at our classroom door He said, "I hear that you have a guardian angel in your Latin class."

"Where did you hear this?"

"At radio club last night, the boys were teasing Bob. He seemed to enjoy it"

Jane had gone on into the room, and was looking at me with a strange expression

I asked, Did I start something? You certainly did! Do I have to sit there?"

Of course not!

So Jane pulled her chair to another table and Bob looked peeved

December 17

Jane started to pull her chair to another table, and I asked, Do you mean you are still peeved even over a weekend?

Well, if certain people would stop making remarks."

To which both David and Bob said We promise! We won't say another word

(From Mrs Falkner Bob gave Robert Falkner a big fuzzy animal for Christmas He and Max Hammer had manufactured a Time Bomb for Mrs Falkner It was ticking when they left it at her home It was an ingenious device that they must have spent hours putting together.)

The material above represents approximately one-thirtieth of the entire record and is unchanged from the original except for the names of the persons and other identifying terms [3]

Recurring Pattern Summation

One of the procedures used at the end of the first year of the child study program comprises the examination of the record and the listing of all the recurring patterns of behavior that can be found in both Bob's behavior and the behavior of others toward Bob This is essentially a non interpretive summation task, designed to see what behaviors are repeated (when and how often) and to present a condensed yet still objective, record of the child prior to making final interpretations Behaviors presented in the recurring pattern list in Figure 6 1 have been grouped loosely under five headings in order to facilitate interpretation and, in this instance, to assist the reader The dates listed after each pattern specify the dates on which that pattern was reported in the record

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[3] Because neither children nor parents are informed that a special study is being made of them, in order to keep behavior from being changed as a result of one being the object of study, exceptionally tight security is maintained on all records in this program Fictitious rather than real names are used in the original copy Only one copy is made, except for training or publication purposes, when special permission to reproduce others is obtained This one copy is usually written with pen or pencil in a bound notebook, which is kept under lock and key At the end of the year, it does not become part of the school record because there may be information in it that is too personal to pass on It is either destroyed or kept under lock at a university for potential, impersonal research purposes.

A. *Relationship with Teachers*

1 Uses first name or other informal phrases such as "Buddy, Buddy" to address Latin teacher 9–10, 10–5, 10–10, 10–22, 10–24, 11–26, 11–29, 12–5, 1–2, 1–15, 1–15, 1–28, 1–29, 1–29, 2–1, 2–1, 2–14, 3–8

2 Teases or jokes with teachers
   (a) With Latin teacher 10–30, 11–2, 11–30, 12–22, 1–21, 1–21, 1–24, 1–25, 1–28, 1–30, 1–31, 2–1, 2–6, 2–11, 2–14, 2–20, 3–1, 3–19, 3–26, 3–26, 4–22, 5–3, 5–3
   (b) With other teachers 12–17, 1–25, 1–30, 1–30, 4–1, 4–1

3 Gives a present to a teacher
   (a) Latin teacher 9–18, 12–12, 1–21, 3–26
   (b) Sick algebra teacher 5–1

4 Makes telephone call to teacher at her home
   (a) Latin teacher 2–12, 2–20, 3–13, 3–19, 3–26, 5–13
   (b) Sick algebra teacher 5–1

5 Talks to Latin teacher about Jane, a classmate 2–6, 2–7, 3–1, 3–11, 4–22

6 Asks Latin teacher if she had noticed something which he had done or if she wants to see something he has to show her 10–8, 2–11, 2–13, 2–15, 2–20, 4–22, 5–14

7 Tells Latin teacher about his out-of-school activities 2–11, 2–20, 3–1, 3–13, 3–19, 3–25, 4–10

8 Did not answer Latin teacher's question about how science fair was going 4–6, 4–6, 4–11

9 Bob is restricted by the Latin teacher from doing something he wants or has already started to do 12–10, 12–13, 2–20, 2–20, 3–13, 3–19 (latter two incidents are group restrictions)

10 Latin teacher takes Bob some place he wants to go 2–1, 3–1, 3–19 (twice at Bob's request)

11 Stops by counselor's office 1–14, 1–15, 3–7, 3–21

12 Corrects Latin teacher 2–11, 3–26

13 Writes or gives note to teachers 11–28, 11–29, 1–30, 1–30, 1–31, 2–11, 4–1

14 Approaches Latin teacher outside class to talk casually with her 11–26, 1–28, 2–11, 5–17

B. *Relationship with Peers*

15 Seen with groups of boys after school or between school classes (in only one instance were girls included in the groups) 10–2, 10–30, 11–13, 11–26, 12–10, 12–12, 1–30, 3–1, 3–19, 3–19, 3–26, 5–6

FIGURE 6.1

16 Teases Jane 12–10, 12–17, 1–21, 1–28, 2–6

17 Asks Jane to go with him to special event 2–7, 4–22

18 Classmates defend Bob's behavior in discussion with teacher 11–28, 11–28, 12–13

19 Bob is nominated by classmates for seatmate or special role 11–27 (5 nominations), 1–14 (2nd in class)

20 Peers comment to teacher about Bob
   (a) Favorably 11–28 12–13
   (b) Neutrally 10–5, 11–28

21 Bob is teased by others about Jane 12–14, 2–12

22 Bob kids classmates. 11–28, 1–21, 4–29

C   *School and Community Activities and Roles*

23 Assumes teaching or special report making roles in class 9–11, 12–7, 1–15, 3–21, 4–4, 4–29

24 Participates in extracurricular activities.
   (a) Picture taking and other photography activities 9–25, 10–8, 1–18, 2–14, 2–20, 3–4, 3–7, 3–8, 3–21, 5–16
   (b) Radio club 10–30, 12–14
   (c) Talent show and special events 1–15, 2–1 4–6, 4–10, 5–10
   (d) Attended sports events and social parties 2–11, 2–15
   (e) Attended concerts and shows 2–27, 3–25
   (f) Student council 2–28
   (g) Piano playing 5–13

25 Sits on chair with legs off the floor 12–10, 12–13

26 Uses Latin phrases in writing or talking 10–10, 12–5, 12–10, 1–25, 1–29, 2–11, 2–12, 2–14

27 Refers to Roman characters or writings. 9–11, 9–17, 1–28, 1–29, 1–31, 2–11

28 Adults comment about Bob to teacher
   (a) Favorably 3–4, 3–29, 5–17
   (b) Unfavorably 10–17, 1–18
   (c) Neutrally 9–11

29 Receives A in semester grades (five in academic subjects, one C in physical education) 1–25

30 Receives less than top citizenship grade in eight instances and top citizenship ratings in five instances 1–25

31 Receives top or near top grade on Latin class tests 9–27, 10–11, 10–29, 12–10, 2–4

32 Is permitted to leave class for extracurricular projects. 10–8, 3–8, 5–16

33 Goes on school trips 1–10, 4–10

FIGURE 61 (Continued)

FIGURE 6 1 (Continued)

D *Family Relationships*

34 Mother or father comes to school, generally to attend school events Bob is in 11-7, 11-26, 2-1, 3-1, 3-4, 4-25

35 Mother supports, condones, defends, or praises Bob's behavior 11-26, 2-1, 4-5 letter, 5-13, 5-13, 5-23

36 Mother comments to the effect that Bob is not unusual 3-4, 3-4

37 Bob spontaneously mentions his father 10-22, 11-13, 3-4, 4-6

38 Mother arranges for him to attend concerts or shows 3-25, 4-22

39 Bob teases members of his family 2-1, 3-1, 5-13

E *Physical and Personality Make up*

40 Classmates mention Bob's small size 1-24, 5-16

41 Bob's voice cracks 3-21, 5-6

42 Absent from school for physical reasons 10-15, 4-5, 5-10, 5-19 thru 5-23

43 Mentions need for more sleep 10-24, 4-12

44 Fidgets 3-11, 3-13

45 Makes derogatory comments about his intellect or his academic performance, especially when he turns in tests 9-11, 10-25, 11-15, 2-1, 3-8, 4-11, 5-17, 5-27

46 Blushes and face turns pink. 11-1, 11-28, 12-10, 4-4

47 Writes poems 1-25, 2-13, 2-3

48 Remains nontalkative in a social situation 10-5, 11-29, 3-7, 5-23

49 Carries notebooks, cigar box, or books with him 3-7, 3-13, 3-21, 4-22

50 People laugh at Bob's antics
    (a) Peers 11-2, 1-28, 1-30, 2-6, 2-11, 3-19
    (b) Adults 11-29 1-28, 2-1, 2-6, 3-19, 5-23

The recurring pattern list was developed by reading the record carefully, from the beginning and listing each behavior that occurred more than once, as one came upon it Each occurrence was dated as shown Coding reliability for this process is typically high if the coders have been trained to make behavioral rather than interpretive statements Several persons independently developed recurring pattern lists from the case of Bob, with agreement between any two of them over 90 percent with respect both to pattern identification and frequency of occurrence

Once the list of behavioral patterns is complete, overall interpretation of the record is appropriate This particular processing sequence is strictly

inductive, with the interpreter withholding judgment about the child until he has organized all the information about him and examined it closely Certain other child-study processes are primarily deductive, having to do with testing hypotheses or categorizing information

Although various conceptual schemes could be utilized in making final interpretations, two have been widely used in the Maryland program The first is an itemizing of the developmental tasks the child seems to be attempting, and the second is a generating of an hypothesized model of his self-structure as it is revealed in the record For both interpretations, recurring patterns as well as other groups of information serve as the basis for the judgments made Thus, in contrast to many clinical interpretations found elsewhere in the literature, it is possible for a second interpreter to re-examine the exact data used and decide whether he thinks the generalizations reached have been sound

Developmental Tasks Interpretive Summary

The developmental tasks on which Bob seemed to be working during the ninth grade are summarized below

1 *Establishing and maintaining close personal contact with adults outside the family* Adolescence is a time when normally developing youngsters pattern themselves after adult model composites taken from many sources (Havighurst and Taba 1949) Bob may not have showed much evidence yet of actually modeling teacher behavior, but he certainly related closely to the Latin teacher and shared his thoughts and concerns with her regarding out-of-school as well as in school life He seemed to be genuinely interested in this teacher as an adult friend, and to a lesser extent in other teachers

Evidence included RPs 1–7, 11–14

2 *Obtaining and retaining adult recognition and affection while at the same time testing the limits of their acceptance* Adult support and understanding were highly important to Bob, as they are to most adolescents, especially as he tested the limits of his relationships

Evidence included RPs 1–4, 6, 7, 11–14

3 *Meeting school expectations for mature behavior* Bob's teasing, prankish behavior seemed to decrease as the year went on Most of the preadolescent types of behaviors were not seen after February

Evidence included RPs 1, 2, 9, 20, 21, 23 25, 28, 30, 44

4 *Finding appropriate outlets for his mental interests and capacities* Bob's brightness and general alertness led him to pursue a variety of activities, both in class and out Even with a heavy extracurricular life, he did not lose interest in school work

Evidence included RPs 7, 10, 14, 17, 19, 21, 23, 24, 26, 27, 32, 43

Figure 6 2 (Continued)

Level I BEHAVIORAL ENVIRONMENTAL INTERACTION	Level IIA SPECIFIC SELF ATTITUDES	Level IIB ATTITUDES TOWARD OTHERS	Level III GENERALIZED SELF CONCEPTS
Tells L T about out of school events (7) Assumes teaching reporting roles (23) Participates in a variety of extra curricular activities (24) Uses Latin phrases (26) Refers to Roman characters (27) Receives A in semester grades (29) Receives top Latin test grades (31) Makes derogatory comments re his intellect or performance (45) Mentions need for more sleep (43) Writes poems (47) Absent from school—ill (42) Carries notebooks, books, etc (49)	I really like Latin I do well in school work I'm bright I have a lot of interest, maybe more than I can keep up with	The world is an interesting place There's much to do, perhaps too much It's not a good idea to appear smarter than others	
Receives A in semester grades (29) Permitted to leave class for extra curricular events (32) Parents attend Bob's events (34) Mother arranges for concerts (38)			

than many clinical investigations With unsorted and moderately objective raw data available for inspection by others, all summary and interpretation steps can be replicated The careful distinguishing of fact from opinion at all stages of the process is also noteworthy

The sorting and classification of facts, of course may vary somewhat from one interpreter to the next in accordance with one's particular unverbalized assumptions regarding the importance of certain types of information The experimentalist too is often unaware of how his implicit scientific biases subtly affect the way he selects his problems and structures his procedures

Perhaps the greatest scientific weakness has to do with the teacher's *original selection of material to notice and record* Another teacher undoubtedly would have seen different events and most likely observed somewhat different items. Even a second trained observer of those events that Bob's Latin teacher cited would not have described them in exactly the same way Some molecular details would probably have been different

Nevertheless a considerable overlap of molar information should have resulted if the observations were well recorded If an observer had noted and recorded the December 12 event, for example (p 222), he undoubtedly would have included such details as Bob's giving the teacher a bag (package, etc), with instructions not to open it there, along with the follow-up exchange of comments when the teacher, wearing her corsage, passed Bob and the boys in the hall Relatively unimportant molecular detail might not have been included (for example, "brown bag or opening it in the "counselor's office) *Such minor alterations of detail would not have changed the basic meaning of the events that had transpired*

To the extent that behavior consistencies reflect human personality, furthermore, it is even *unlikely that a record of Bob kept by another teacher* would have produced a substantially different Bob from the one already presented Most certainly there would have been fewer details about his special relationship with the Latin teacher *and more about his interactions with this second teacher* Otherwise, there should have been little difference in the records Those behavior patterns that had been seen frequently by the Latin teacher should have been seen *frequently* by others, even though the particular instances observed might not have been *the same* Bob's participation in various school activities, his derogatory comments about his own academic performances, and his antics that made other people laugh were all habitual behaviors that any acute observer would surely see Evidence that other teachers were aware of these characteristics was even present in the Latin teacher's record

The child-study program encourages a broad sampling of behavior and situations in order to counteract the unconscious bias that otherwise results from selective perception Records are read to, and often analyzed by, an

entire group of teachers, and the writer is questioned in detail about the child and his background Such questioning leads the writer to seek out additional material that she might not have perceived on her own A group analysis, furthermore, derives a greater range of hypotheses than one person usually considers by himself These and other procedures are designed to point out gaps in a record and to broaden and deepen the scope of data gathered Occasionally, preplanned time sampling is even utilized as a means of ensuring complete impartiality of event selection (Prescott, 1957)

For those who feel, perhaps, that the Latin teacher spent too much time observing one youngster or accepted too much familiarity and nonsense from Bob, it should be recognized that at the first of the year Bob had been considered an "obnoxious handful" by several other teachers For example, his homeroom teacher remarked on October 17, "You can have him, high IQ and all All he does is talk, talk, talk" It would have been very easy to reject him as a nuisance Miss Ross, the Latin teacher, was indeed more friendly and tolerant than many teachers would have been, putting up with his phone calls at home and responding with humor to his wisecracks and teasing By the middle of the year, however, the friendship was strong enough to begin setting some limits without destroying the relationship (See RP 9, Figure 6 1) This ability to relate well with youngsters who bother other teachers may certainly have been one of the reasons Miss Ross was a counselor as well as teacher She was also able to talk with her col leagues and to help keep their attitudes toward Bob positive and construc tive There is even a hint of evidence, as one examines the dates of recurring patterns closely, that Bob's antics were more and more appreciated as the year proceeded (see RPs 28, 29, 30, 32, 50 in Figure 6 1)

With regard to the limited focus charge, it should also be recognized that Miss Ross was able to realize what was happening to many other children, presumably *because of*, rather than *in spite of*, her close attention to Bob Jane, for example, overreacted *perhaps to Bob's attentions*, *which* led to a conference between Jane and Miss Ross The study of one child closely often stimulates greater awareness of what others are doing than one would otherwise recognize (Brandt and Perkins, 1956, Prescott, 1957) The case of Bob illustrates both the need for studying individual human behavior and the importance of choosing procedures that make such investi gative activity at least moderately rigorous

SMALL GROUPS

Stimulated by pioneering theoretical and empirical work in the 1930s (Lewin, 1939, Moreno, 1934), the concept of group study became a most fashionable object for scientific analysis during subsequent decades

Early studies of Lippitt (1940) and Lewin, Lippitt, and White (1939), among others, demonstrated the feasibility of experimental investigation of group structure and functioning and opened the way for a veritable deluge of studies of work groups, management groups, recreational groups and school groups. Groups came to be characterized by differences in such measurable dimensions as (1) *cohesiveness* that is, tendency of members to remain in a group (2) *leadership style* (examples democratic, autocratic, laissez faire) and (3) *communication* and *decision-making patterns* Good collections of such studies have been made by Cartwright and Zander (1953) and Hare, Borgatta and Bales (1955) Recent studies are found in such journals as *Sociometry Social Psychology*, and *Human Relations* They are also reviewed and cited abundantly in many sociology, psychology, management and professional education textbooks

The group has been a focus not only for research activity, but for profes sional training and personal therapy as well Most likely, millions of people have experienced sensitivity training or participated in programs designed to improve human relations skills and leadership ability In addition, group dynamics specialists have often been assigned "watchdog" roles for ongoing industrial and professional groups. They are expected to expedite decision making, improve morale assess communication difficulties and improve overall organizational functioning Such specialists typically observe ongoing processes and make explicit to the membership whatever they discern on the premise that if people become highly conscious of what is taking place, within group interaction improvements will result So, the study of group life has become commonplace, both in terms of scientific research and the daily operation of organizations

Obviously, a small group can be studied more completely than an entire organization It is not so complex, nor are its members so hard to keep track of It is even possible for the entire network of interactions between members to be observed At any given instant, there is generally a single focal point in the group activity, usually the person who is speaking The feasibility has been demonstrated numerous times of following the inter change from one speaker to another through an hour-long meeting and recording accurately both the sequence of speakers and the types of com ments One of the pioneers in such interaction analysis is Bales (1950), who devised both an electrical recorder and a *category system* to cover many kinds of meetings With such equipment and systems, the instantaneous coding of group interaction patterns has become a fruitful widespread pro cedure (see Chapter 4, Checklist Data) For keeping track of various kinds of participant behavior The simpler the category system, furthermore, the less need for sophisticated hardware in order to obtain objective data Even while conducting a meeting, for example, a leader can often record accu rately how many times persons talk, merely by tallying their names as they

make remarks A less active participant can record still more participant behavior

Although there is an infinite variety of groups, two general types can be discriminated One is the formally established *institutional group*, in which the membership is relatively stable and, almost always, has formal links to the larger organization of which the group is a subordinate part Assignment to the group is often made by someone outside the group itself, such as a personnel director Occasionally, institutional criteria determine member ship If, for example, a woman has a child in Mrs Smith's third grade class, she automatically qualifies as a member of the "class mothers' club" If, in the latter example, she responds to the teacher's request to be 'homeroom mother' by agreeing to do so, she becomes a member of another institu tional group, that is, 'homeroom mothers' Although both the "class mothers club' and the "homeroom mothers' may operate rather inde pendently of the school itself, their very existence depends to a considerable extent on the latter institution It holds at least minimal expectations regarding both their membership and functioning

The other major type of group is the *peer group*, often designated merely as an *informal group* While peer groups may function within an organiza tion, their membership and operations are primarily self-determined Eight men may be assigned to a factory drill press department, for example, but within this institutional group there may also exist a five man informal group not officially recognized in the company's organization chart The informal group members may do work similar to that of the other three drill press operators, but in addition may also interact as a distinct entity in numerous other ways

Avocational and extrainstitutional interests are reflected in the content for much peer group interaction and activity Thus, the five man drill press group above may swap jokes, talk fishing, compare work rates, discuss shop operations, and take work breaks together while actually performing their regular factory duties They may seem quite oblivious to the other three men in their institutional group Although cliques and friendship groups are often found within the membership of institutional groups and function to some extent within institutional settings, the most enduring of them persist in extracurricular settings, where people are relatively free of other responsi bilities

In societies that provide its members a great deal of time free of cultural responsibilities peer groups tend to become strong institutions It was no accident that Whyte (1955) found that Doc's gang had an overpowering influence on its members' behavior It consisted primarily of late adolescent high school dropouts who had no regular jobs or heavy family obligations The peer group had taken over in this vacuum

Contrasting situations can be found in both our own culture and those elsewhere For example when the work week was over 60 hours per person little peer interaction could occur outside the work setting Only on Saturday night did the coal miner or factory hand have a real opportunity to join the boys for fun Similarly German youth of the 1930s were seldom able to engage in spontaneous peer activity Several hours of school homework were assigned for evening and weekend study home chores were extensive and even recreational time was highly structured by state-supported youth leaders It was not merely the paternalistic German family structure nor the authoritarian leadership of its other institutions that conditioned German youth to accept a dictatorship An important causal factor was the relative absence of a strong peer group to shape them otherwise (Riesman 1950) The lower-class street gangs of today's urban ghettos represent the opposite condition in which few ties exist with the formally organized institutions of our society The school has lost its influence over urban adolescents as has the family Unemployment for many individuals prevents working group membership as a balancing force to the self instigating tendencies of peer group life One consequence in middle-class America furthermore where the peer group has also dominated the increasing leisure of modern adolescence has been the tendency to oppose and even tear down the established institutions of society

Although the peer group can be highly authoritarian in its own right demanding total loyalty and blind obedience of its members neither leader ship nor membership status are conferred from without by either higher authority or administrative edict Membership and leadership must both be won Even group rules and expectations are not handed down but emerge in a contest among those of basically equal status Peer status is conferred upon those who abide by these rules and meet group expectations Those individuals who most successfully meet group standards are granted the highest status and as a result have greater opportunity to alter the stand ards still further The struggle of the individual for group status and the powerful resultant effect of the group on individual persons is dramatically portrayed in *Lord of the Flies* (Golding 1955) and *West Side Story* (Griffith and Prince 1957) among countless other current literary products

While the effects are often powerful they are not always negative or antisocial as many societal critics suggest Quite the contrary—the peer group may be the most important institution within a democratic cul ture for teaching such critical attributes as sensitivity to the needs of others and group problem-solving skills Where does a better training ground exist for the articulate leadership skills required in modern society? Per suasiveness and responsiveness to others have become essential interpersonal ingredients of the successful adult At least a moderate degree of "other

directedness is probably a necessary human quality for any highly interdependent society, certainly one whose technology is evolving as rapidly as the present one

Although hundreds of excellent studies reported in professional journals might serve to illustrate various analytic procedures,[6] a previously unpublished investigation is chosen because of its relatively simple dimensions Group-study procedures need not be elaborate in order for useful data to be produced This particular study also serves to contrast interaction patterns in the two types of groups, formal and informal, as discussed above

This investigation was conducted by a single graduate student, (Swanson, 1963)[7] playing the role of unobstrusive observer to perhaps a half-dozen recreation groups of 11- to 13 year-old boys and girls He gathered approximately equal amounts of data by watching group activities in progress for an hour or more in each instance and making notes in such ways as not to attract undue attention In most instances, he was merely a part of a larger adult audience that displayed varying degrees of interest in the youngsters' activities He *did not even know the names of his subjects prior to his observations*

It is quite common for youth groups to function rather independently within a larger social setting without adults, who might be present, necessarily cognizant of them Although many people of varying ages were present at the community swimming pool, for example, which served as the setting for one of Swanson's observations, several small peer groups were absorbed in their own activities and oblivious to what others were doing The greater their involvement, the less likely they were to be conscious of others

In such settings, as long as other persons are also involved in their own peer or private activities, the peer group tends to function with a high degree of privacy Occasional glances at outsiders serve to reinforce this sense of group isolation or to warn participants that their actions are being noticed and they should be on guard As long as their glances indicate that no one is taking particular notice of them, peer activity tends to continue almost as if no one else were present Thus, the informal factory group, for example, often operates *under the very nose of the plant supervisor without his awareness* of its existence As he moves from group to group, voices tend to be lowered, conversation changed, and work behavior altered, depending in part on what kind of a person the observer is considered to be

The investigator (Swanson, 1963) was particularly interested in comparing two types of teenage recreational groups (1) those in which adults played dominant leadership and participant roles, and (2) those in which adults were only nonparticipant parts of the contextual background and otherwise occupied in their own recreation These latter groups were assumed to exhibit peer dynamics similar to those operative in the complete absence of outsiders This is probably a reasonably safe assumption as long as the peer behavior is well within overall societal norms

A total of five groups were observed for 1 to 2 hours each Because the observer was not completely certain which activity dimensions were most critical to study, he wrote a moderately objective one-page narrative account of each observation immediately afterward An example of these records follows in the form of his full narrative description of Group A (Swanson, 1963)

June 27, 1963, 7 00 P M Arrived at playfield for observation of a little league game already in progress Picked team which seemed to be most *colorful and active (also had more parents yelling at them)* Upon arrival with notebook in hand, the coach immediately started looking directly at me and continued to do so throughout the game *(Aha! Scout from another team, or maybe some other important person related to baseball is interested in my team?)*[8] The coach wore a red hat and a white tee-shirt that barely covered his bay window He certainly seemed to play a large part in directing the boys through sarcastic remarks, which at times had several boys (ages 11 to 13) crying Four boys bore the brunt of his remarks during the game

Jack, the first baseman, tallied the most hits for the team and made several good catches of bad throws in the field, yet the more he tried, it seemed the more the coach yelled at him Finally, in the fifth inning, Jack threw his glove down and, in tears, yelled to the coach that he was going home The coach, undaunted by this action, immediately consulted the bench and sent a scrub in to replace Jack *The replacement must have been better than Jack, because the coach centered his comments on Scotue the pitcher, Tom the catcher, and Will the third baseman,* yet the replacement failed *to hit safely and missed several easy balls in the infield*

Scottie was the smallest player by far on the field, yet he was the hero of the day, since he was the winning pitcher In going the route he allowed only 11 runs on numerous errors and a few hits by the opponents Scottie always smiled, seemed to be there because he enjoyed it, and certainly didn't show any outward signs of being bothered by the coach's taunts directed at him

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[8] Obvious inferences were placed inside parentheses by the observer himself Many other interpretive phrases were qualified by the use of the verbs "seemed" and 'appeared'

Will kept up a constant chatter of encouragement to Scottie He did have one error, which prompted the coach to jeer him about it for two innings afterwards He must have received some good tips on hitting from his father (who ran out to Will before his turn at bat to say something) Will nodded his head and upon entering the batter's box connected for an infield single on the first pitch The father on the sidelines was congratulated by another father and the coach continued his harassment of the team

Tom, by contrast to his batterymate was the largest boy playing, yet next to Jack, seemed most affected by the coach He was well coordinated for his size and age (11) and did a good job of catching yet said not a word that I could hear [during] the whole game The muscles in his neck and his facial expression belied his easy stroll back and forth from the field to the dugout He appeared determined to do his best and forget the coach, but I felt that deep down inside him he wanted to dig a hole and bury the coach in it

Immediately after the game each player scurried off the field and went straight toward waiting parents or bicycles Few seemed to pay much attention to the coach's plea for a practice session tomorrow and no cheer was afforded the vanquished team, yet the losers gave a cheer for the victors Only two children left the field together, although many ended up in the same cars The two who left together were Scottie and another reserve player who did not play in the game The last to leave was the coach, who had to round up the equipment, and he persuaded two boys who were spectators to help him carry the equipment to the car

Examination of the above report reveals a mixture of—

1   objective anecdotal writing example
      "   in the fifth inning Jack threw his glove down and, in tears, yelled to the coach that he was going home "
2   objective generalized recurring patterns without precise identification of their frequency of occurrence, example
      '   the coach centered his comments on Scottie the pitcher, Tom, the catcher, and Will the third baseman   "
3   interpretive, evaluative summations, example
      'Scottie always smiled, seemed to be there because he enjoyed it, and certainly didn't show any outward signs of being bothered by the coach's taunts directed at him "

Probably the greatest value of such data is in hypothesis generation for future studies In present form they represent too little coverage of the entire event and are of uneven quality The coach's behavior is referred to here and there, quite often in objective fashion, but in no consistent, systematic way The investigator had no predetermined pattern for observing the data he noted in the account Although a reader can obtain a reasonably good

overall picture of the event he has no way to judge how biased the picture might be or how it would compare with another observer's account

What the investigator did choose to observe and record systematically in this particular study were between peer comments. By copious note taking he was able to record the comment of each youngster that reflected (1) approval versus disapproval of peers or (2) positive supportive reaction versus a negative critical assessment of the current status of the activity. Such comments were taken down verbatim and later converted into frequency distributions by categorizing together remarks that were semantically identical.

The assignment of each comment-category (example 'You can't even run') to positive or negative overall classifications was checked by having

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TABLE 6 1   FREQUENCY DISTRIBUTIONS OF PEER EVALUATIVE
COMMENTS OF GROUP A LITTLE LEAGUE TEAM MEMBERS

Comment Category*	f
Negative Comments	
Why did you (do that swing at that one, etc.)	12
We want (Scottie)—Take him out!	9
He's no good—leave (Scottie) in	3
That's stupid	2
Let it go—let him walk you—don't swing	2
You're no (Stan Musial that is, a star)	1
You can't do anything right	1
You can't even (run)	1
I can do better than that	1
From now on let me get them—They are supposed to be mine	1
Let me do it he can't	1
Let me alone	1
Total negative	35
Positive Comments	
C'mon (Scottie)	7
Nice hit (Will)	5
Thanks (for water)	2
Only one more	2
Gee he is really good	1
Let (Tom hit)—he's a (good hitter)	1
We got em	1
Total positive	19

* Parentheses indicate that other specifics would receive similar classifications.

an independent scorer rerate the entire list of comment categories arranged randomly. The resultant amount of agreement with the observer's original classifications averaged 80 percent over the five groups. This figure most likely would have been higher if the second scorer had had the advantage of the original observer in hearing the comments made during ongoing activity, rather than merely classifying isolated comments out of context. The meaning of such remarks as "yeah" or "just a little" is undoubtedly a function of voice tone and context.

Tables 6 1 and 6 2 present the frequency distributions of positive and negative comments for two of the groups. Group A is the Little League team already described while Group B is another Little League team with a

TABLE 6 2   FREQUENCY DISTRIBUTION OF PEER EVALUATIVE
            COMMENTS OF GROUP B LITTLE LEAGUE TEAM MEMBERS

Comment Category*	f
Negative Comments	
Swing	7
Stay there	3
You should have hit it	3
Run	3
Target (Burt), target—gotta have a target	2
Come on (Bill), what's the matter with you	1
Total negative	19
Positive Comments	
That's making him swing	8
Good cut	5
He's all motion	4
Okay, (two) more	*4*
Got it made	2
That's got it	2
Only two back	1
Now we got em running	1
Nice (Stan), nice	1
Man, that's showing 'em	1
Where's the major league bat, so he can hit?	1
Hit it over the house top	1
C'mon guys, help him	1
If you get on, I'll drive you in	1
Total positive	33

* Parentheses indicate that other specifics would receive similar classifications.

less autocratic, almost laissez faire coach Whereas almost twice as many negative as positive comments characterize Group A's interactions, the inverse interaction pattern typifies Group B, with 33 comments being positive and only 19 negative

It is readily recognized, of course, that many factors other than coaching affect in game interaction of the players Who is winning how close the score, how important the game, and how large the crowd are only illustrative of the many contributing influences The biases of especially talkative players, as well as the prestige of particular players such as Scottie, would obviously influence the overall interaction pattern of a given group A more sophisticated recording procedure than that used, in which speakers were identified, would have permitted an estimate of the extent of such influence

In spite of the procedural limitations noted, the differences in overall group climate between the two teams are rather apparent Not only are they evident in frequency differences but in the quality of comments as well The negative comments of Group A were primarily belittling, highly generalized criticisms (examples "Why did you do that?" "He's no good") The vast majority of Group B's negative comments, on the other hand, were orders to the other person, such as instructions of what to do (examples "swing," "stay there," "run"), with little direct derogation of the other party Qualitative differences are also apparent among positive comments, with the most frequent utterance for Group A members being a simple note of encouragement (such as, "C'mon"), whereas the two most frequent comments of Group B players were in praise of good performance (examples "That's making him swing" and "Good cut") Grouping of specific positive categories into four general types according to their main intent reveals sharp qualitative differences, as shown in the table below [9]

Main Intent	Group A		Group B	
	f	%	f	%
Praise performance or player	7	(37)	20	(61)
Encourage good performance	7	(37)	3	(9)
Evaluate game progress (example We got 'em)	3	(16)	10	(30)
Express appreciation	2	(10)		
Total	19	(100)	33	(100)

[9] These categories may not be mutually exclusive in each instance, although they are treated so in this illustration *Encouraging good performance* and *evaluating game progress* particularly may overlap Nevertheless, the extent of differences seemed sufficient for the interpretations suggested

One might presume that Group B was characterized by more praise and game-oriented comments (91 percent) and fewer remarks designed to stimulate good performance (9 percent) than Group A because they were probably winning the game and praise rather than encouragement was more appropriate The reverse condition was true in fact as the narrative accounts show, Group A was winning rather handily and Group B was losing a close game

The three other groups observed were true peer groups Their activities were organized spontaneously, with rules and taboos developed to fit the occasion No adults supervised their activities, although several may have been present in the same recreational setting When one of the groups, consisting of boys and girls swimming together at a community pool, noticed the investigator watching them, they moved away from him and observed him in turn until he left the pool area

The narrative description of one of these peer groups is presented below in order to illustrate the general sequence of events and the group-generated rules Again baseball is the focal activity

Group E

July 10, 1963 1 30 P M While touring through my favorite haunts, I observed four boys playing baseball together One of the boys I recognized as a player for the Group A team I sat down at a table near them and pretended to be reading while watching them play The game they were playing was baseball, only modified to suit the needs of four rather than nine One of the boys called Paul was reinstructing the others as to the rules, since there had been quite a verbal fight over foul and fair balls

There were two teams composed of two boys each Each team batted until three outs were made A strike or foul ball counted as an out The ball, when hit, had to drop between the pitcher and the fielder for an automatic single Any ball bouncing before it got to the pitcher was an out If the ball went beyond the fielder it was a home run Needless to say, there were more outs than runs

It became Carl s and Tim s job to announce the inning as each team changed sides

The game proceeded quite smoothly and each boy often would compare a hit or strike or catch to a major league ball player The game was interrupted twice during the time I was there Once in the fifth inning to pet and run a dog off the field while one of the boys who lived across the street ran home during this lull, presumably for an emergency In the several minute break, the boys tossed the ball around and bunted while saying very little to each other When Dave returned he was sucking on an ice cube Both Paul and Carl ran toward him, asking for one, but he had only two and the other cube was for his teammate Tim Carl yelled that they, mean

ing his team would really murder the opponents—besides who ever heard of a major league ball player sucking on ice cubes?

The other break came after the game reached the terminating point and Paul announced he was going home. Of course this brought on a storm of protests but finally it was decided that three could play just as well only now it was individuals rather than teams. As Paul walked slowly home he turned back three times to watch the remaining three play and then this appeared over the hill.

The temperature was 96° and yet the game was played through nine innings and beyond for three of them. Not once did I notice the boys tire and call a break other than the emergency. They pursued this game just like it was the biggest game of the season. While effort seemed to be important they also kept up a constant commentary of the game like a sports caster might and took every opportunity to ride the opponents.

The two peer groups not yet described were observed in activities other than baseball. Group C consisted of three boys and four girls dunking and splashing each other in a community center swimming pool. Much giggling, laughing and playful chasing of each other in the water characterized the horseplay on a boys-against-girls basis.

Group D was made up of two boys who attempted to set up a lemonade stand in a park near a girls' softball game and five other boys who tried to obtain lemonade from them without paying. Horseplay, taunting and rough housing prevailed until the lemonade was gone and chairs were overturned. A refill of the lemonade supply followed by a collapsed card table and with it a spilled pitcher ended the unsuccessful sales effort. The five nonpaying intruders took off on their bicycles making plans to set up their own lemonade stand on a corner and really do business.

The overall conclusions of the study can best be understood by reference to Figure 63 which graphically portrays the positive-negative comment totals for each of the five groups. Lack of equal observation time makes the first conclusion a highly tentative hypothesis namely that groups free from adult supervision have more frequent peer interaction than those with adult leadership (example: Groups C and E surpassed Groups A and B).[10] The other major finding evident in Figure 63 is the greater proportion of positive to negative comments that prevailed in two peer groups (C and E) than in the adult led groups especially the adult-dominated Group A.

Although Group D did not follow this pattern precisely when the lemonade rules established by one member were rejected by some of the others friction developed among the members of the total group. The latter was not truly a seven member group rather it consisted of two persons in con

[10] Group E was observed for a considerably shorter overall period of time than the other groups.
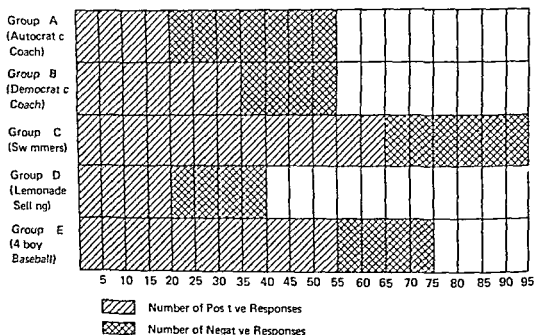
FIGURE 6 3 GRAPHIC COMPARISON OF GROUPS ON TOTAL RECORDED POSITIVE
AND NEGATIVE RESPONSES TOTALS IN GROUP C WERE SOMEWHAT
LARGER BECAUSE NOT ALL COMMENTS COULD BE HEARD THOSE
RECORDED WERE ROUNDED TO THE NEAREST 5 FOR EASE IN GRAPHIC
COMPARISON

flict with a second group of five persons who were trying to take over their
activities In spite of the friction, as many positive as negative interpersonal
remarks were heard among the seven persons involved This is a still larger
ratio of positive-negative evaluations than was observed in the autocratically
led Group A

For the most part knowledge of peer activity and structure has been
limited to what could be obtained through interviews, questionnaires, and
sociometric instruments With several notable exceptions (Hollingshead,
1949 Sherif and Sherif, 1964, Whyte, 1955, etc) only novelists have
described the everyday operation of groups (such as gangs) With slight
procedural improvement (for example, inclusion of time data), the preced
ing study could easily serve as a model for numerous significant investiga
tions

ORGANIZATIONAL ANALYSIS

Much more complicated for study purposes than individuals are
human organizations, which include both a range and the interplay of
individual motivation and action A comprehensive analysis of an organiza

tion must focus, in part, on individual behavior and the sentiment related to it, yet its functioning is much more than the sum total of the individual behaviors of its personnel

Of particular concern to organization analysts are the ways in which various parts fit together and function in relation to organizational objectives Such investigators are interested in communication processes and the coordination of efforts They identify the bureaucratic structure—that is, the chain of responsibility—the specialization and division of labor, and the governing policies and regulations. Measures of productivity are usually critical variables in their investigations

Organizations consist of individuals, small groups, and larger groups with varying degrees of power and status in relation to each other For each subgroup as well as for overall groups certain behavioral norms can be discerned Expectancies are held of one group by another and of individuals by groups These norms and expectancies tend to endure and to stabilize organizational functioning

While a certain degree of stabilization is essential for efficient, coordinated operation, technological and other forms of cultural change tend to stimulate changes in organizational products and services A commercial organization that does not re-examine its functioning and update its products every so often will not survive for long in a rapidly changing culture It is necessary therefore, to assess these stabilized organizational patterns regularly, in order to determine which ones need improvement Even where overall change may not be called for, numerous internal patterns may be operating detrimentally with respect to organizational objectives

The history of scientific organizational analysis might well be traced to Frederick Winslow Taylor (1911) and his studies of industrial work activity in the early 1900s. He and his followers made intensive observational studies of various industrial operations in an effort to find out the best method of doing jobs Worker behavior was timed accurately with a stopwatch, each movement being noted and appraised in relation to total tasks Tools, materials and work flow all came under their careful scrutiny as they attempted to increase overall productivity by improving procedures The industrial engineer and his in-shop technician, the time-study man, came to be accepted staff personnel in most large factories after World War I

Today, the work measurement tradition is carried on not only in industrial but in commercial settings as well Management consultants and work measurement specialists have conducted refined job analyses in all kinds of organizations Bank tellers, shipping clerks, insurance salesmen, secretaries, and hundreds of other persons engaged in a wide assortment of work routines have all been studied on the job More often than not, direct timing of each movement with a stopwatch is no longer practiced Indeed,

tasks are broken down into their basic elements and standard time data associated with these elements are added together to determine how long tasks should take As indicated in Chapter 4 (pp 110–112), standard time data have been derived from numerous measurements of basic work motions under varying conditions of distance of objects from workers and weight of materials involved They are readily available from predetermined time system handbooks once the basic elements in an operation are identified Perhaps the most widely used predetermined time system is called Methods Time Measurement, whose standards are regularly upgraded by the MTM Association for Standards and Research (1965) A detailed coverage of this system has been presented by Karger and Bayha (1965)

No discussion of organizational research would be complete without reference to the studies in the 1930s and 1940s by the Western Electric Company Harvard Business School, headed by Elton Mayo, Fritz J Roethlisberger and William J Dickson (Roethlisberger and Dickson, 1939) In these studies attempts were made to test out experimental designs under field conditions The researchers began by studying the effects of altered working conditions on worker productivity

Results were paradoxical Improved working conditions (for example, better lighting and more rest periods) did not always lead to greater productivity on the part of girls assembling telephone relays or doing other routine tasks In fact, productivity sometimes increased when working conditions actually worsened Increased productivity was finally attributed not so much to actual changes in lighting heating, noise, or methods, but to employee awareness of receiving special treatment created by being the subjects of experimentation, a phenomenon labeled the 'Hawthorne effect after the name of the plant where this research was conducted The Hawthorne effect has become the bane of the field experimentalist's existence in recent years

It is now well understood that the mere knowledge that research is being done on a person is sufficient to alter his usual behavior Research control groups need to receive the same amount of attention from investigators as do treatment groups so that results cannot be attributed to differential Hawthorne effects rather than to the actual independent variables under study

Subsequent to the Western Electric studies came innumerable investigations of management practices in industry Many focused on the impact of worker participation in decision making Results varied from study to study, with greater employee participation often but not always, leading to greater employee effectiveness in implementing decisions The contradictory studies could usually be explained on the basis of inappropriate criterion measures or special local conditions Occasionally, productivity went up as employees became less involved in making decisions, but accompanying negative senti

ments were usually found also When studies are well designed with appropriate consideration given to the many organizational variables likely to affect results however consistent dependable relationships are usually found among leadership motivational, and performance variables (Likert, 1967)

A variety of research methods has characterized organizational studies Participant observer investigations have been rare but when they have been done, they have provided an inside picture of employee actions and feelings that is hard to capture in any other way Roy's (1959) studies of blue-collar workers in factories construction gangs and oil fields are penetratingly insightful as is Dalton's (1959) work cited in Chapter 2

More common than investigations in which the researcher is a true participant and his research activities generally unrecognized by other participants are those in which he is granted entry to the organization by its establishment and permitted freedom to observe and chat informally with its participants His success as a researcher depends on his winning the trust and confidence of the participants A wider discussion about this role and the skills involved was given in Chapter 5

The regularly assigned industrial engineering staff personnel specialists, and systems analysts also tend to observe on going operations closely and typically depend as well on various quantitative data procured as a part of routine operation They become expert at evaluating the record system around which work flows and organizational action revolves

For gaining widespread information particularly about the sentiments of participants (that is employees customers, etc), the organizational researcher must also utilize questionnaires His careful attention to sampling and administration procedures, as well as to selection of appropriate instruments can strengthen an otherwise much overworked often invalid data gathering procedure The sentiments of people are fickle They are also not readily revealed, especially if there is a chance of public display If the information solicitor is perceived as part of the establishment, as he often is—there is even more resistance than usual to expressing one's true feelings on a questionnaire Yet if properly handled this instrument can provide vital information about a particular organization in a most expeditious manner

Demonstrating good questionnaire construction and survey interviewing procedures for a quarter of a century, the Institute for Social Research at the University of Michigan has provided industry with consumer sentiment data of all sorts which have served as a basis for commercial projections and management decisions Customer attitude evaluation has become big business Additional discussion of research methodology appears in Chapter 5 as well as in Whyte's recent synthesis, *Organizational Behavior Theory and Application* (1969)

The very complexity of organizational structure and functioning necessitates careful delineation of variables and adequate theorizing. Too much is available for study to permit the researcher uncertainty in what he observes. He needs an overall guide to his observations, one that provides a multi perspective analysis of this multifaceted entity.

Unfortunately, perhaps, there is no widely endorsed theory regarding what comprises the major dimensions of organizational structure.[11] There are instead a variety of theories whose major dimensions vary with the type and purpose of organizations. Despite this lack of a standard listing of organizational dimensions that need to be accounted for in any particular study, the researcher ought to identify carefully those aspects he intends to investigate. If he is successful in choosing the most important dimensions of a particular organization, his investigation will usually lead to institutional improvement.

Although naturalistic studies are valuable on small aspects of organizational activity, we are concerned here with attempts at comprehensive analysis. There have been too few attempts at studying total social organisms, such as insurance companies, women's clubs, and school classrooms.

Although no widely endorsed taxonomy of organizational dimensions exists, a search of various textbooks reveals a number of organizational variables that are considered important enough to have chapters and collections of chapters devoted to them. Such dimensions as the following exemplify the scope of organizational study, with the possibility of innumerable breakdowns into finer variables.

Groups and intergroup relations
Vertical relations, including first line supervision, top management activities, etc
Lateral and diagonal relations
Cost control and fiscal policy
Work flow and inventory patterns
Union management relations
Decision making and change
Engineering and design activities
Personnel policies and procedures

There is overlap among some items in the list and in their application to any particular company, and other topics might be more critical than those

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[11] A commendable start has been made recently by Likert and Bowers (1969) in developing a comprehensive organizational theory that can be applied in human response accounting. Three types of variables are identified—causal, intervening and end result—and an overall plan for their measurement is described.

listed, but they do illustrate the complexity of modern industrial organizations Obviously, not everything can be included in a particular investigation, but, increasingly, systems analysis has shown the practicality of large-scale studies It is generally recognized that each partial activity is related to other partial activities Solution to many of today's problems calls for a simultaneous attack on many fronts, including comprehensive rather than piecemeal organizational analysis

The organizational study that follows in highly abbreviated form will serve to show both the scope and problems involved in such study [12] It certainly does not represent a complete or even nearly complete study of an organization, owing in part to the fact that only one person served as the primary data gatherer It is sufficiently comprehensive, however, to illustrate how a researcher goes about his business, delineates his areas of investigation, chooses his measuring techniques and draws his conclusions It shows the utilization of several kinds of techniques and different levels of analysis

In 1954 the Food World Company operated just over 100 supermarkets in three states Twenty years earlier this company had consisted of more than 600 small stores, but this six times larger number of units had done less than a third of the present volume of retail sales Whereas fewer than a dozen people had been employed in each store in 1935, more than 50 people were now employed

Many changes had occurred in the food industry during these two decades, and the supermarket had become one of the prime symbols of an advanced technology No less high-status dignitaries than a British queen and a Russian chief-of-state found time during their highly condensed tours of the United States to visit this modern American institution

Still more change was to come to the food merchandising industry generally, and to the Food World Company particularly As the management perceived this company's future, the technology was to stabilize somewhat, but traditional organizational patterns were no longer deemed sufficient In spite of slow, steady growth in sales and earnings over the previous five years, the top executives felt that to remain competitive especially in relation to those local independent grocers who had survived the revolution by growing larger and stronger, decentralization of their own organization was necessary Only through decentralizing would their stores be sufficiently adaptable to meet local customer needs The advantage in the future, they felt, would go to the organization that combined both size and flexibility

At the same time that organizational patterns were being reviewed for

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[12] The illustrative organizational study, digested on the following pages, was first published by Paul R Lawrence, *The Changing of Organizational Behavior Patterns* (1958) The present author is responsible for this particular description

promising changes a field researcher became interested in the possibilities of studying such patterns before, during, and after improvements were attempted Obtaining permission from the small group of top executives to conduct research during this transitory period, his first task became that of clarifying particular questions to be investigated and the methods to be used in seeking answers Two general questions became the focus of his investigation namely, (1) identifying the nature of the basic behavior patterns in the organization, and (2) determining how much change actually occurred in these patterns over a two-year period and what key factors underlay these alterations

With technological change not a dominant factor to be considered, Homans (1950) conception of activities, interactions, and sentiments, as the major behavioral elements for an organization, guided the investigator in his delineation of what was to be studied Focusing on each type of position in the organizational chart, in turn, he gathered data on what persons did, how they interacted with others, and what feelings they possessed He engaged in months of direct observation of people at work and open-ended interviews with them about their company He talked with people throughout the organization He kept voluminous field notes, coding and grouping comments and actions for analysis at a later date In order to obtain comparative data from one person and time to another, he developed an interaction checklist that permitted instantaneous coding of two-person conversations and provided a highly objective, quantitative record of such interactions He was able to gather substantial, comparable behavioral data on a pre post basis, thus turning an ordinary administrative alteration into a naturalistic scientific experiment

Realizing that many changes could occur as a result of a major shift in administrative policy, the researcher concentrated his measurements on two strategic positions the store manager and his immediate superordinate the district manager Persons occupying these positions were considered by top management as key instruments to any forthcoming reorganization

New behaviors for such persons were clearly implied The store manager, traditionally, had spent over half of his time in his office filling out company records, purchase orders and various other forms, with most of the remaining time spent in moving merchandise and setting an example of hard physical work Now he was to spend most of his time observing throughout all departments analyzing past performance, and working out specific plans for the future Traditionally, his task had consisted of trying to run the store according to rather precise directives passed to him from top management by the district manager Now, instead of responding to management directives so precisely, he was to make more decisions himself The district manager, likewise, was to change his role from one of passing on directives

and evaluating their implementation to that of assisting store managers in problem solving keeping top management informed of problems arising in the field and passing on suggestions originating from store personnel Clearly two-way communication was implied between the distric manager and the store manager whereas the earlier pattern had been confined primarily to a briefing of the latter when the former made his rounds

Field notes illustrating these two styles of behavior appear below (Lawrence 1958 pp 117 118 86-87)

TRADITIONAL INTERACTION STYLE

DM₃ entered the store and after telling SM₃ in some detail just what was expected of him at a women's club meeting at which SM₃ was to represent the store he asked SM₃ to follow him upstairs to the lunch room

DM spread out a list he had prepared in which he had located in other stores a number of different types of promotion dishes SM₃ needed to meet certain of his customers needs He requested SM₃ to produce his inventory of the dishes he had on hand and when it became apparent that SM₃ did not have one DM₃ sat down with SM and the two of them took inventory DM₃ directed this process and gave SM detailed instructions such as *Just put down the letter 'P' there for that on your list Don't bother to write out pink* It takes too long *Just use the letter P*

After about an hour SM₃ left the room for a minute and DM₃ explained to the researcher that SM₃ was all mixed up on these dishes and that while he hated to spend the time to go over them and straighten them out it was clear SM₃ wasn't handling them correctly He also expressed irritation about SM₃'s confusion about the luncheon meeting

After SM₃ came back, DM₃ asked him about his list of slow moving items SM₃ said he didn't know about that and would go and get it Again he left the room

SM₃ returned and the two men discussed several items DM₃ had on his list returning again to the luncheon

SM₃	Should I tell the meat man about it?
DM₃	I don't see why
SM₃	Well I was just thinking he might not be dressed for this kind of a luncheon He might just come in a sport jacket or something and be embarrassed by the way he was dressed
DM₃	I think you've got a point there I'll try to speak to him about it ahead of time
SM₃	Do you think we ought to bring the grocery manager?
DM₃	Well I think that's something we can decide what do you want to do?

SM₃   It just occurred to me that it might make a difference to the store
        operations manager whether we did or not

DM₃   Look, you don t need to worry about what he thinks What I mean
        is I am sure he will go along with anything we agree on

New Interaction Style

Dm₁ was busy copying down SM₁'s payroll estimates for each department
At no point did he question any of SM₁'s figures

DM₁   Well, there they are You set the goals, my boy Don t complain to
        me if you don't make them

SM₁   Well, we set them, we ll try to make them (DM₁ left the room
        for a minute)

Researcher   Seriously, whose idea was it to raise the sales volume $1000
        in here?

SM₁   It was mine I figured out how much we were running ahead of
        last year as a percentage Then I went back to last year s volume
        at this time and simply added to it this percentage that we were
        running ahead of last year That s the way I came up with it
        It s anybody s guess, but I think we ll make it I didn t make
        any correction for the Brookford opening,[13] which is going to
        be in effect during the whole last month of this period, because
        you just don t know what effect something like that is going to
        have, so I didn t put it in at all
                There s a lot of things going on around here which might just
            balance out Now we re going to have a bank put up across from
            our parking lot and a big life insurance office is going up down
            the other way Those are all plus factors On the other side,

In the first example above DM₁ clearly assumed the initiative throughout
the visit, with SM₁ trying hard to comply with the instructions given him,
while in the second example, DM₁ condoned SM₁'s setting his own sales
targets and allowed him to do most of the talking In other exchanges,
DM₁ typically presented ideas from top management in such a manner that
they did not have to be taken as orders but could be considered instead in
relation to the local situation The episode below illustrates this new style
for a district manager (Lawrence, 1958, pp 84–85)

DM₁   That s right And we ve found, in the other stores, that you can
        cut your labor way down if you re on the grocery ordering for
        mula, no matter how good guesses you ve made in the past about
        the kind of stuff you need and when you need it

SM₁   Well, when they put us over on a formula system, I ll consider it

[13] Another Food World Store recently opened in a nearby community

DM₁   Well, you're right I think that's the time to consider it And you've certainly done a hell of a job here and I think it's tremendous

Grocery manager   Well, it's not just me, it's the guys here, like Dizzy (Points to a young fellow who is opening a carton)

Later, DM₁ brought up the formula system again

DM₁   Now, don't forget, you fellows I agree fully that when we've got this formula system in, our shelves look like hell, and there's no getting around that, but I do think it can save us some money, and we want to consider it

Grocery manager   Well, DM, are they resigned to not keeping neat shelves now?

DM₁   Well, I don't think they mean not keeping them neat The point is they're not full Now, us old time storekeepers just don't like it, and I know that you feel the same way I do But the point is that I think we can save money on it

Grocery manager   Well, you're probably right I'm an old time storekeeper, but I'm not so old that I can't keep up with things

In order to obtain sufficient data to permit an accurate pre-post comparison of district-store manager interactions, the field researcher devised a simple form and procedure for coding instantaneously in his notebook various dimensions of these interactions Figure 6 4 shows one page as it was filled out to represent 15 minutes of interaction Time was represented by the length of vertical marks, with the observer's wristwatch being used as the essential measuring instrument Obviously, it was not felt necessary to measure and record time of comments to the nearest second, as errors would, most likely, have been balanced between the two types of participants over the great number of comments recorded The speaker of each comment was indicated by a horizontal mark to the left (DM₁) or right (SM₁) of the vertical line Four columns were used for recording the four categories of speech (questions, information, opinions, and suggestions or directions) Topics were indicated when they were introduced by appropriate letters (Pe, people R records M, merchandise, P, plant, S, small talk)

The simple form was adequate for an observer to use as he visited a given store with the district manager and recorded essential characteristics of the interactions he had with the store manager in routine, systematic fashion Field scoring of the same events was almost identical for two observers with respect to speech categories but somewhat less perfect for topics Nevertheless, this simple procedure provided excellent comparative data between district managers, across store managers, and before and after the reorganization

Lawrence reported his results after a minimum of 3½ hours of observa

FIGURE 6 4   SAMPLE INTERACTION SCORING SHEET (LAWRENCE, 1958, p 231).

tion of each of the three district managers (Lawrence, 1958, p 134). Some of them can be summarized as follows

1   DM₁'s overall pattern of talking tended to meet expectations for two-way communication between himself and his subordinates more closely than did those of the other district managers He made only 58 percent of the comments, on the average, in his interactions with three store managers, whereas DM₂ made 73 percent and DM₃ made 75 percent of the comments in similar situations

2   DM₁'s interaction behavior was more balanced overall among the speech categories than that of the other district managers He made *suggestions* or gave *directions* only three times as often as his store managers

DM₃ on the other hand made suggestions or gave directions 14 times as often as his store managers DM₃ s ratio of cueing his own opinions to hear ing his store managers opinions was less than 2 to 1 Similar ratios for the other district managers were 3 to 1 and 4 to 1 He also listened to more in formation than he gave which was not true of the others

3 For DM₂ *more time was spent with his store managers in exchanging information* than in any other kind of talk Exchanging *information* along with *giving suggestions or directions*, was also the most prevalent type of talk for interactions of DM₃ with his store managers but in contrast to DM₁ DM₃ did the majority of talking The most frequently used talking category for DM₂ with his subordinates was *opinion cueing*

4 Interesting differences also appeared in the percentages of time spent talking on various topics Figure 6 5 shows almost half of DM₃ s interactions to be concerned with people and almost half of DM₃ s interactions to focus on record systems The most popular topic in DM₂ s interactions was mer chandise Again differences among the three men were considerable, with DM₁ coinciding most closely with new management expectations

5 Comparison of DM-SM talking time during 1955 and 1957 two years after the reorganization program had been in effect, indicated that both DM₂ and DM₃ had shifted roles considerably in the direction of man agement expectations [14] DM₃ talked only 55 percent of the time compared with 73 percent earlier and DM₂ talked only 62 percent of the time com pared with 75 percent earlier The average duration of DM₃ s comments
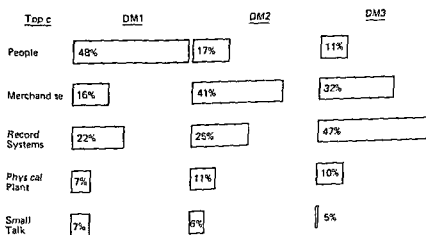
FIGURE 6 5 PERCENTAGE OF DM AND SM TALKING TIME BY TOPICS (LAW RENCE, 1958 p 137)

[14] DM₁ was promoted to a new position during this period, precluding the gathering of post reorganization data

dropped during this time from 0 28 to 0 19 minute Similar drops were found in DM₃'s comments, from 0 26 to 0 22 minute (Lawrence, 1958, pp 176, 178)

In addition to results based primarily on the interaction coding procedure, a number of findings can be cited from other data It was hypothesized for example that behaviors of the district managers would be consistent with their self-concepts and that changes in behavior would be accompanied by concommitant attitudinal changes

Verbatim comments recorded by the researcher on many occasions were classified loosely in terms of the object of a self referent remark DM₁ made the following remarks about himself as a superordinate (Lawrence, 1958, pp 146–147)

> I'm interested in my store managers' opinions and, of course, I want them to know what mine are
>
> I believe that if a store manager can come up with his own answer to a problem, it is going to be the best answer in almost every case I may not agree exactly with the way he would do it, but, unless he's really wrong, you ought to go ahead and let him do it his own way and he'll be better off That's the only way you teach them to take the initiative on these matters

Also grouped with the preceding comments were DM₁'s opinions about supervisors in general, for example

> My notion of a good supervisor is one who doesn't talk any more than his subordinates do Of course, you've got to do some of the talking to explain to him the kinds of things he ought to know about what the company wants him to do, but you're also got to give him plenty of chance to talk about his problems and the things he has on his mind or you're not going to get very far

In similar fashion, DM₁'s comments about himself as both a superior and a subordinate were inspected together Comments related directly to the role of district manager were grouped together, as were those focusing on the reorganization plan Lawrence found an internal consistency among these various perceptions and sentiments, which was also harmonious with the behaviors he had observed DM₁ exhibit on a day to-day basis He summarized DM₁'s views of himself in several series of statements (Lawrence, 1958, pp 145, 146)

As a district manager

1 I am a competent, hard working district manager, but I can make mistakes and I always have to learn

2 I am a person who says what I think to anyone, even if it is unpopular, but I am willing to accept good ideas from any source

3 I face up to unpleasant realities, even about myself

4 I am something of a noncomformist

As a superior

1 I do not want to dominate the thinking of my subordinates

2 I want to push responsibility on them as fast as I can and get them to answer their own problems

3 I operate by giving them my advice and suggestions and taking a keen interest in their problems and suggestions

4 I treat different employees differently and do not expect perfection

5 I look for administrative ability as the primary requirement for my subordinate supervisors

6 I candidly tell my subordinates where they stand with me

As a subordinate

1 My superiors are approachable, hard working, decent, and competent, but not always right

2 I am not afraid of being fired and I say what I think to my superiors

3 No organization is perfect

4 I expect, as a district manager, to be consulted by my superiors on all issues affecting the stores

In similar fashion sentiment data were pulled together on each of the other district managers Substantial differences were apparent in the self, concept material and inferential summaries for the three men Again, however, an inner consistency of perceptions and actions could be detected for each man Examples of the differences Lawrence (1958, pp 158, 163, 164, 166) saw in inferred self-concepts follow

> DM_2 *as a subordinate*
> The top management people are no fools but they don't always appreciate what we are up against in the stores They sometimes give conflicting directions
>
> DM_3 *as a district manager*
> I am a systematic and tough supervisor who gets things done
>
> DM_5 *as a superior*
> I tell my subordinates what to do, answer their questions and follow up to see that things get done
>
> DM_4 *as a subordinate*
> Superiors should give me clear-cut policies and instructions to follow I tell my bosses exactly what I think (but not so much lately because it has gotten me into trouble)

Not all the data for determining the effects of the reorganization came from district and store manager relationships The researcher also observed
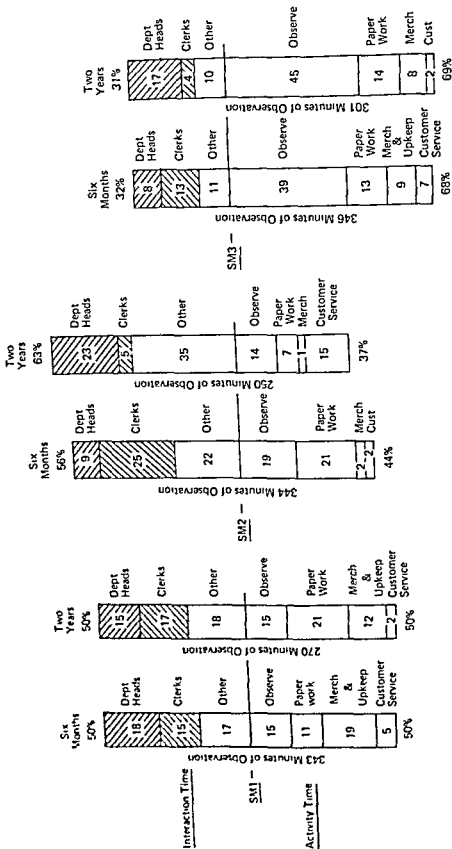
FIGURE 66 INTERACTIONS AND ACTIVITIES OF STONE MANAGERS SIX MONTHS AND TWO YEARS AFTER REORGANIZATION (LAWRENCE, 1958, p. 181).

working patterns of the store managers themselves at different times six months after their initial appointment to this role and two years later How three store managers spent their time during these two observation periods is shown in Figure 6 6 Analysis of these data produced the following results

1 There was little change from one period to the other in the amount of interaction versus working without talking patterns SM₂ changed somewhat (7 percentile points) in the direction of more talking but the other two managers were remarkably stable in this respect

2 SM₁ changed a little in his activity patterns but practically made no change in selection of people he interacted with In terms of talking more with department heads than clerks he was more in line with the new role requirements during the initial observation period than either of the other SMs, so there would be less likelihood of change

3 SM₂ and SM₃ both made substantial shifts in the expected directions in terms of whom they interacted with

4 Another observer record of who initiated actions indicated that SM₁ remained highly stable, starting interaction five-eighths of the times during both observation periods SM₂ and SM₃, both of whom initiated 73 per cent of their interactions at first, initiated only 60 percent and 56 percent respectively, two years later Again the shift was in the direction of new role expectancies

INVESTIGATING AN EVENT[15]

It seems probable that highly organized heavily publicized mass protests may become an increasingly popular means for expressing sentiment and even exerting political pressure with regard to social issues Concentration of population in urban areas improved methods of transportation and centralization of mass media in fewer and fewer persons would seem to enhance the possibilities To the extent that mass demonstrations do indeed become common events there is need to know how to study them well and interpret their meanings accurately

Most investigations of student protests and mass demonstrations have been based on data gathered after the fact Owing to the spontaneous nature of many events their occurrences and even the significance of their occurrences have rarely been predictable The resultant analyses in retro-occurrences have rarely been predictable The resultant analyses in retro-

spect have been notably imprecise (Flacks, 1967, Berube and Gittell, 1969, Walker 1968 National Advisory Commission on Civil Disorders, 1968) Other large-scale events occur only as a result of considerable planning and organizational effort Rally recruitment appeals and other publicity connected with forthcoming demonstrations can provide researchers with ample information for developing observation schedules and procedures for studying them as they take place One such event was the moratorium of Oct 15, 1969, which afforded a superb opportunity to analyze a mass protest movement through the use of naturalistic research methods This event was extensively preplanned at both national and local levels, and was widely enough publicized to provide impetus and schemata for an equally extensive, preplanned investigation

Stimulated by local and national publicity during early fall, 1969, investigators at the University of Virginia formulated the following questions concerning the forthcoming moratorium events

1 What specific behaviors would constitute participation in the moratorium?
2 How would behaviors at the University of Virginia and in the local city compare with behaviors and activities elsewhere?
3 What types of students, faculty, and other citizens would participate, and in what numbers?
4 What intent would be attributed to participant behaviors by participants and by planners, before the fact and after the fact?
5 Would there be discernible effects of the demonstration on national policy toward the war in Viet Nam?

To find answers to these questions and to gather data for testing specific hypotheses regarding their answers, three major methods of investigation were utilized

1 Open-ended, unobtrusive interviews of a representative sample of the University student body were made before and after moratorium day [16] In informal settings such as dormitory, snack bar, and athletic field, students were engaged in conversation by the investigating students and asked questions about the meaning of the moratorium and their own plans and attitudes in relation to it Students were not told that they were being interviewed or that their replies would be recorded, in order to maximize the likelihood of responses being true indicators of intent or feeling

2 In addition to these interviews, investigators attended University and local moratorium events as participants, counting numbers of participants and writing objective event descriptions as soon as they were over

[16] Hereafter, moratorium day will be abbreviated M-day and other days, M-6, M 1 day, M+1 day, etc

3 Various documents covering the period Oct 8–16 were analyzed including the University daily newspaper, *The Cavalier Daily* the one local daily newspaper, *The Daily Progress* *The Washington Post* and *The New York Times* National news magazines (*Newsweek*, *Time* *U S News and World Report*) for the week prior to, the week of and the week following the event were also consulted

Local Moratorium Activities

Over one week before M-day the major campus newspaper reported President Shannon's reply to the Student Council's request that the University cancel classes in support of the Vietnam moratorium In his denial of this request Shannon was quoted (*Cavalier Daily*, Oct 7, 1969) as saying

> The University has an obligation to maintain an atmosphere in which all views can be expressed in which individuals can oppose the war or defend it, or advocate various means of ending it as a matter of academic and intellectual freedom
>
> For the University to suspend classes or to encourage its faculty to suspend classes in support of a position on these issues would be inconsistent with this obligation
>
> The University will therefore adhere to its established academic calendar on October 15

President Shannon also indicated that students had a right to participate in the moratorium by adding

> Individual students are, of course, free—as they always are—to make their own decisions in the light of their academic duties and ethical responsibilities

These statements set the tone and established the limits for much of what was to follow Reaction to this administrative policy statement itself was varied and brought forth several letters to the editor, expressing disappointment or enthusiasm for President Shannon's position One thing was certain the way remained open for students and faculty to become involved in moratorium activities if they wished

Probably the most fundamental way students at Virginia, as well as elsewhere in the country, were supposed to show their support of the moratorium was by not attending classes that were organized for customary academic purposes The number of students not attending classes-as usual was to have been the prime indicator of how widespread was the support Simple as this index seems, its validity became suspect as professors expressed their own sentiments in canceling or not canceling classes, insisting

or not insisting on work missed being made up, or merely by indicating their feelings one way or the other Counting vacant seats would have been meaningless unless related faculty directives were also known

Instead of measuring class absence directly, therefore, the investigators held pre M day interviews with 51 students who constituted a loosely representative sample of the University population in terms of sex, age, year level, and School These interviews permitted an estimate of intended action, especially in light of perceived professorial sentiment To the question, "What do you plan to do? How are you going to participate?', only 10 students, less than 20 percent, indicated plans to miss class Attendance at the noon rally, which did not conflict with class time, was cited often as an intended way of participating Almost half (46 percent) of the interviewees, furthermore, said they did not intend to participate in any way

The low level of intentions to miss class, in order to permit a protest to be registered visibly, could not be accounted for by faculty pressure for attendance Quite the contrary—the same interviewees indicated in only 5 instances that professors expected attendance The majority, 28, were perceived as not recommending either way, in 6 instances, professors were perceived as not expecting attendance, and, according to 8 interviewees, professors specifically mentioned that absences would be excused It is interesting to note that responses showed 7 professors to be dismissing classes in spite of the administrative policy to "adhere to its established academic calendar"

Differences in intended participation also showed up in predictable fashion between graduates and undergraduates and among age groups Only 12 percent of the graduate students indicated an intention to miss class, as compared with 27 percent of the undergraduates Well over half of the 26 graduate students, furthermore, said that they did not intend to participate in any of the activities, compared with only about a third of the under graduates Similar trends were found when the responses were organized by age levels of the respondents, reflecting, of course, the high correlation usually obtaining between student status and age Only 1 of the 13 students interviewed who were over 25 years old planned to become involved in any of the activities A greater generation gap would seem to exist between earlier age groups than is often stipulated

If support for the moratorium seemed less than solid among the interviewee group, actual frequency counts of those taking part in events raised even more serious doubts as to its overall acceptance among the student body Inspection of Table 6 3 leads to one rather obvious conclusion, namely, that only a small minority of the University community took part Attendance at all events except Senator McGovern's speech was small enough to be counted accurately Even if one were to assume that no one took part in

TABLE 6.3   MORATORIUM EVENTS ATTENDANCE OF INTERVIEWEE SAMPLE IN COMPARISON WITH TOTAL NUMBER OF PARTICIPANTS

Day and Time	Event	Number of Participants	Source of Count	Percentage of Interviewees Intending to Attend
M-6	Planning meeting	60	Observed	0
M-5, Evening	Senator McGovern talk	3200	Seats available filled	0
M-2, Evening	Graebner Waskow symposium	300/430*	Continuing count	0
M-1, 6–7 PM	Planning meeting for canvass	68	Observed	2
M-1, 7–10 PM	Canvass of townspeople	Uncertain	Only 4 observed	0
M-1, 10 PM	Canvass report in	47	Reports turned in	11
M-1, 7 30 PM	Candlelight march	58/120/200†	Observed	0
M-1, 7–10 PM	Dorm symposia	13–22	Observed	0
M-1, 10 PM	Debate in Webb Hall	(Not covered)		0
M, 8 50, 9 50, 10 50, 2 50	Chapel services	8–24	Observed	19
M	Absence from class	(see text)	—	0
M	Soc-Anthrop seminar	(Not covered)		15
M 9–12 AM, 3–10 PM	Teach in South Meeting Room	90–133	Observed at 3 & 3 30	33
M Noon	Rally at Rotunda	840	Average of 4 head counts	2
M Afternoon	Canvass resumed	1	Observed	2
M	Handout of literature at shopping centers	6/0	Observed	0
M, 9 PM	Rock concert	700	Cavalier Daily	0
M, 10 PM	Candlelight march on Observatory Mountain	700		0
M + 1	Vietnam film presented at Prism	None cited (film arrived late)	—	2
	Display of signs, posters, flags, buttons	35‡	Observed	0
	Petitions supporting moratorium	187 faculty 1300 students	Cavalier Daily	0

* Three hundred average present during main presentations 430 came for part of session
† At different times
‡ Nine antimoratorium signs were also displayed in the main Arts and Science building

more than one event on M1 and M-days, a highly unlikely assumption, the total number of persons involved would be only slightly over a thousand, 840 of whom were accounted for by the noon rally. With over 9500 students and faculty as potential participants, along with almost unlimited numbers of townspeople, the overall response was meager [17]

If the 19 percent figure procured from the interviewees who planned to cut classes were used to estimate the total number of students who actually did so, only 1800 absentees would result. This figure is probably quite high, however, judging from the ratios of interviewees planning to participate in particular events in relation to actual numbers of participants. One-third of the interviewees expressed intentions of attending the Rotunda rally, yet less than one tenth of the University population actually appeared there. Similarly, 15 percent of the interviewees expected to go to the South Meeting Room teach in, where total attendance was under 200. Estimates from these ratios would put the number of students missing class specifically to register support for the moratorium cause at 300 to 500, a small minority of the University student population.

Of the other events, only the two candlelight marches, the Rock *Concert*, and the teach in drew more than 100 people. Even these numbers were disappointing to the leaders. One was heard to say at the start of the M1 candlelight march, for example, that they had expected at least 200 instead of the 58 present.

This march was boycotted by adults, furthermore, even though its point of beginning was at a church whose congregation had been duly urged to participate in this procession. Marching through a dormitory section of the campus, the crowd swelled to about 200 by the time it reached President Shannon's house. Many jocular taunts were heard along the way between marchers and onlookers (examples 'Get out from under the trees," and 'Get off the fence') Marchers tried to entice the dorm residents into joining the throng and accepting a candle. A few did so

Particularly disappointing to the leaders was the turnout for action oriented activities, in contrast to that for speech or debate listening. Leaders were expecting 200 or 300 persons to canvass townspeople, leaving litera ture and soliciting support. Only 68 turned up for the planning meeting, and only 47 reports of presumed accomplishments were turned in later that evening. Despite attempts to observe canvassers at work, driving or walk ing through the neighborhoods being covered, only one foursome was

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[17] It is reasonable to assume that most persons attending the Rock Concert and Observatory Mountain march in the evening of M-day had already participated in other activities and therefore had been counted. They were excluded from these calculations because they were not observed directly

actually spotted performing this task. Similarly in checking how many people were handing out literature in shopping areas none was found in the downtown section of town during the stipulated period and only six were seen in the main suburban shopping center

Perhaps the highly limited student participation in M activities observed was unique to Virginia and unlike the response on other campuses. Other hypotheses seemed relevant as well. One was that the news media had tended to inflate figures in reporting student events so that the response elsewhere might not have been so great as first indicated. Another was that faculty and administration action in dismissing classes actually presented a distorted and overinflated impression of support, since this prevented many students from registering their opposition by attending classes

Both hypotheses could be tested in part with the data at hand. The first hypothesis was tested by comparing observed attendance figures with newspaper accounts. The sample was admittedly small as in most instances only the student newspaper (*Cavalier Daily*) and the Charlottesville paper carried reports of the Virginia moratorium events [18] If the hypothesis were verified with these papers however one might be more suspicious of others than if not verified on the premise that inflation of facts makes better copy. The second alternative hypothesis led to an analysis of the journalistic accounts that had been gathered of moratorium activities across the nation. These documents were searched closely for instances where faculty and administrative action made it possible for students to participate or not participate as they so desired and where sufficient details were included to permit a comparison with the University of Virginia response

Table 6 4 reveals that newspaper attendance reports were indeed inflated. Of the ten comparisons with our carefully observed counts of actual attendance six newspaper reports were found to be highly inflated and none were lower. Techniques for measuring the size of crowds have not been standardized and this brief check on reporters estimates suggests they are certainly needed if public opinion is to be either swayed or judged by mass action. The accuracy of hotel reservations bus counts and other promising indices needs to be evaluated in order to provide appropriate means for determining the extent of mass rallies

Regarding attendance at classes the newspaper coverage leaves perhaps an even more distorted impression of response. An October 15 Charlottesville paper article was headlined U Va Attendance Off Normal. The article itself revealed that no systematic count had been taken and contained statements somewhat contradictory to the headline

[18] *The New York Times* of October 16 referred to the "sizable protest at the University" but included no specific figures in its report

TABLE 6 4   NEWSPAPER ATTENDANCE REPORTS OF MORATORIUM
             EVENTS IN COMPARISON WITH ACTUAL COUNTS

Event	Actual Count	Cavalier Daily	Difference, %	Daily Progress	Difference %
Graebner Waskow symposium	300/430*	300	0/-30	500	67/16
Candlelight march (M-1)	58/200	60/200	4/0	-/300	-/50
Rally at Rotunda	840†	1500-2000	78-138	1200-2000	43-138
Senator McGovern speech	3200			3200	0
Chapel services	8-24	30-40	67-274		

* 300 present during major presentations 430 persons came for part of symposium
† Average of four separate counts during the rally

Many reports of class attendance at U Va today indicated normal or
near normal attendance, some showed high absences

Spot checks of individual professors indicated most scheduled classes
were held though in some cases attendance was reported well under normal
(Rex Barry, U Va Attendance Off Normal, *Daily Progress*, Oct 15,
1969)

One of the student leaders announced at the noon rally that 60 to 80
percent of the students were not attending class Asked later in private how
these figures had been obtained, he admitted that they had been based
primarily on the number of leaflets handed out between 8 and 10 that
morning specifically urging students to show support for the moratorium by
not going to class and by attending M-day events instead It should be
stressed that this estimate was not based on a head count of any kind but
only on leaflet distribution, certainly a remote indicator of student response
Many students undoubtedly had picked up copies of the leaflet out of
curiosity, to see what it contained, and most likely had discarded them soon
afterwards, without any intention of following its directives Their presence
on the campus at those hours should indicate instead that they were attend
ing either classes or the teach in Since the number who attended the teach in
was small (90 to 133), class attendance was the more likely possibility
One investigator had already picked up five copies himself before he heard
of its use as a count indicator Later in the day, the same leader was
questioned again about class attendance, and he revised downward his
absentee estimate to 40 to 60 percent insisting that at the University of
Virginia even a 30-percent response would be notable

Suspicions supported with regard to the inaccuracy of newspaper accounts

and even of seemingly official announcements the investigators next turned to the entire collection of moratorium periodical clippings that had been gathered over a two-week period to try to depict faculty and administrative actions elsewhere These clippings were scrutinized specifically to determine which institutions left squarely with students the choice of attending or not attending class and what choices they had made

Unfortunately this search proved fruitless No counts were found of how many students turned up for class in colleges where the option to attend or not to attend clearly existed although the *New York Times* (Oct 16 p 19) reported Penn State one-half empty and Harvard empty and the *Washington Post* indicated that three-quarters of the University of Michigan students had been absent Peri and one-quarter of the Stanford freshman students had been absent Peri odical accounts in their summaries of activities elsewhere were often ambigu ous as to what official policy actually existed Of the 32 institutions in which M activities were described to some extent only 8 (counting the 19 Cali fornia state colleges as one and the Virginia major colleges as another) see Table 6 5) were reported as officially adhering to the established calendar Half of the institutions officially suspended classes and in four others teachers were notified that classes could be called off if the instructor so wished It is obvious of course that when classes are suspended by either administrative or faculty action students no longer can express their atti tudes through attendance or nonattendance Even in the institutions that reportedly carried on with the usual schedule no mention was made of pressures exerted by professors on students to come or stay away from class of possible change in class content toward moratorium issues of how thor oughly faculty followed administrative edicts or especially of student response For example although the Princeton faculty first voted that stu dents had the right to protest or to attend classes 100 staff members later voted to encourage participation in the moratorium Therefore it was not at all possible to use class nonattendance as reported in lay periodical literature as a true polling of antiwar feeling Those who had hoped to relay to Presi dent Nixon specific figures of students who clearly demanded an immediate end to the war were apparently not successful in their poll taking or else reported poll taking was fallaciously represented In the mimeographed handout at the University of Virginia on October 15, entitled Go to Class? or Stay Out? students were told

> All other arguments aside you have one essential choice to make Those who participate in the Moratorium will be interpreted as demanding an end to the war or at least recognizing the importance of discussing it Those who go to class today (regardless of intentions) will be deemed as indicat ing unreserved support for the Nixon Vietnam Policy and for the Con tinuation of American Military Commitment to the Thieu Ky Regime

TABLE 65 POLICIES REGARDING CLASS ATTENDANCE AS REPORTED IN NEWSPAPERS AND MAJOR NEWS MAGAZINES

COLLEGE OR UNIVERSITY	ADMINISTRATIVE POLICY TO MAINTAIN CLASS SCHEDULE	ADMINISTRATIVE POLICY TO SUSPEND CLASSES	INDIVIDUAL TEACHERS TO MAKE DECISION	NO STAND, OR REPORT UNCLEAR
U North Carolina	Time 10/10			
Columbia U	NYT 10/10, p 16			
MIT	F vote, NYT, 10/11, p 3			
California State Colleges	D Progress 10/10			
U Illinois	D Progress, 10/10			
Princeton	F vote, NYT 10/9, p 5			
Harvard	D Progress, 10/10			
All other Va major colleges	D Progress, 10/10			
Wellesley (Mass)		NYT, 10/12, p 81		
Albert Einstein Coll of Medicine		NYT		
Rutgers		Time, 10/10		
Whittier		Wash Post, 10/15, p 6		

U of Hawau	*Wash Post*, 10/12, p 2
U Oklahoma	NYT, 10/12, p 81
Boston Univ	NYT, 10/12, p 81
U Massachusetts	U S N W R, 10/13
Northeastern	NYT, 10/12, p 81
Tufts	NYT, 10/12, p 81
Harvard Dıv Sch	NYT, 10/11, p 25
Yale Dıv Sch	NYT, 10/11, p 25
Union Theological Sem (Va)	D Progress, 10/10
Eastern Mennonite College (Va)	D Progress, 10/10
Hollins College	D Progress, 10/10
Marshall U	D Progress, 10/10
Vassar	NYT, 10/10
U Pennsylvana	*Tıme*, 10/10
Cornell	*Tıme*, 10/10
U Mıchgan	NYT, 10/12, p 81
U Califorma (Berkeley)	*Tıme*, 10/10
U Kansas	*Tıme*, 10/10
Amherst College	*Tıme*, 10/10
Smith College	NYT

Despite the stated importance of class attendance versus nonattendance, no one apparently bothered to determine it accurately at the University or elsewhere

Numbers of participants were mentioned for many moratorium events across the country The October 27 issue of *U S News and World Report* reported for example, that (1) an estimated 35,000 persons marched to the White House in Washington (2) 25,000 met in the University of Michigan stadium (3) an estimated 30,000 listened to "peace now" speeches in Chicago's Civic Center, and (4) about 4,000 of an enrollment of 36,000 students turned out at the University of Texas *Time* magazine (Oct 24 1969) indicated that the overall number of M-day participants across the nation was probably not over one million, barely 0 5 percent of the United States population

The University of Virginia's response to Senator McGovern's speech and other sessions where prominent speakers were featured was certainly as great if not greater, than many student body responses elsewhere If only 0 5 percent of the population turned out for major speeches, the amount of truly active participation must have been very meager Perhaps this is but another example of the lethargy of the American people in undertaking social action Certainly, President Nixon's war policies did not receive the overwhelming indictment from the masses of Americans that the moratorium leaders had hoped for In fact, a nationwide opinion poll taken the following week showed an increase in the number of people favoring Nixon's war policies

The National Response

Much has already been said above about the national M-day response, as it was examined through newspapers and current magazines Nationally, there was great variation in M-day activities Some were highly original, others were found on almost every campus and even in community centers Speeches on underlying issues by noted authorities were highly popular and undoubtedly drew the biggest crowds Candlelight marches prevailed with at least moderate-size crowds in numerous places Teach-in discussions and religious services were also held in a number of places although there was no indication of whether or not their popularity was any greater than in Charlottesville Petitions, posters, flags at half mast and other symbols were widely displayed Among more unique events were the enclosure of peace symbols in packages of sausage, the giving of blood by Randolph Macon Woman's College in Virginia as "a protest against senseless bloodshed in Vietnam, the tolling of a bell at Simpson College in Iowa every second for 39,400 seconds to represent those killed in the war, and the

tragic suicides of two New Jersey high school students following their attend ance of a Glassboro State College rally

Table 66 shows the activities our documents identified and their frequency of indicated occurrence among the institutions mentioned Also included is an indication of whether or not each type of activity occurred at the University of Virginia Although the two lists are generally comparable, several activities engaged in elsewhere were not found at the University Such a statement probably would characterize any other single institution, which is always likely to offer less than a composite of institutions

According to this particular collection of major news periodicals, moratorium participation was not restricted to college campuses nor to fringe groups in the larger society Support was given in some form by the mayor or city government in New York City Detroit Boston Atlanta Buffalo, New Haven, and Berkeley, among other major cities Not only did many congress

TABLE 66   MORATORIUM ACTIVITIES AT OTHER COLLEGES
AND UNIVERSITIES IN COMPARISON WITH UNIVERSITY
OF VIRGINIA M DAY ACTIVITIES (RANKED ACCORDING
TO THEIR FREQUENCY OF OCCURRENCE AS REPORTED
IN THE DOCUMENT COLLECTION)

Event	No Institutions Reported	University of Virginia Event
Cancellation of classes	16	
Speakers	15	x
Unspecified demonstrations	12	x
Marches	8	x
Religious services	7	x
Reading names of war dead	6	
Teach ins	6	x
Rallies	4	x
Mock funerals	3	
Signs and leaflets	3	x
Giving blood	2	
Movies	2	x
Bell tolling	2	
Door to-door canvass	1	x
Planting crosses for war dead	1	
Flame lighting until wars end	1	
Sleep in	1	
Telegrams to Nixon	1	
Total Activity Types	18	Total U Va 9

men participate as speakers at various rallies, but they also boycotted regular legislative business one month later on the November 15 moratorium day and made an effort to keep the House of Representatives in session overnight 'Businessmen s rallies in Chicago's Civic Center Plaza and New York's Wall Street attracted thousands Migrant labor leader Cesar Chavez urged his followers to observe the day as did leaders of the Alliance for Labor Action Supportive religious organizations included the Archdioceses of Boston and Detroit, the United Church of Christ, the executive board of the Central Council of American Rabbis, and leaders of the Southern Christian Leader ship Conference The executive director of the National Urban League and the New York chapter of the National Association of Social Workers were typical of other groups that endorsed the moratorium (Charlottesville, *Daily Progress*, Oct 10, 1969, *Time*, Oct 16, 1969)

Leaders and Participants

The moratorium received support from individuals and organiza tions representative of all ages, classes, religions, and political parties The degree to which those who participated were comparable to those who did not take part could not be ascertained, nor was it possible even to find out how the participants could be broken down in terms of such demographic variables as age, religious or political affiliation, or educational or work background

It would seem likely that disproportionately high numbers of participants had come from *the young, parents of teen age boys*, and *liberal and activist persons* generally The mere fact that, despite extensive community support, the main thrust of the entire movement came from college and to a lesser extent high school campuses indicates the heavy involvement of youth Initiated by an older generation for historical reasons that no longer seem relevant in this fast-changing world, this war, as have many others, has affected most directly the lives and welfare of a younger generation—one that, in this instance, has been thoroughly conditioned to question and demand

The generation gap was obviously evident in the nature of social exchange present in moratorium activity Those events participated in by large num bers of people of various ages tended to be the rallies and speeches where only a few presided and most were listeners Little exchange between partici pants was necessary At Virginia the generation gap was most obvious in the candlelight march Although it emanated from a church, with the pulpit providing prior publicity and encouraging participation, it was almost totally lacking in adult marchers The hesitancy of students to meet the townspeople in face-to-face discussion of issues was certainly evident in the small turnout,

Investigating an Event

and still smaller follow through for the door-to-door canvass and the pitifully meager response to shopping-center activity Apparently this hesitancy to bridge the generation gap was felt elsewhere as students from only one other college (Amherst) were reported in our documents to solicit community support via a door-to-door canvass (Table 66)

Adult groups that usually could be counted on for support were college faculties Across the country generally faculty senates voted endorsement of moratorium plans and individual faculty members cooperated with student leaders to provide much of the direction for particular events (Table 65)

Even among faculty groups however the age differential was apparent Although both its president and its dean of the undergraduate college expressed the hope that Columbia University would not take an official institutional stand the younger faculty and students however carried the day with the Senate voting that anyone participating in the moratorium could do so without prejudice and also recommending immediate withdrawal of American troops in Vietnam (*Newsweek* Oct 13 1969) Student councils at the University of Virginia and Virginia Commonwealth University asked their administrations to suspend classes but without success

Although this *differential response hypothesis with respect to age* held up under a systematic document search the parents of teen age boys hypothesis did not Only one brief reference was found that of a World War II veteran in Birmingham Michigan who claimed I'm against this one Its morally wrong I've got two boys coming up (*Time* Oct 24 1969) Obviously without opportunity to contact parents directly in this study data were lacking for support or rejection of this hypothesis

The hypothesis regarding support from *liberally oriented persons and groups and opposition from conservatives* held up reasonably well although one could find some notable exceptions The youthful Vietnam Moratorium Committee in Washington consisted primarily of students or former students who had been active in the recent presidential crusades for Senators Robert Kennedy and Eugene V McCarthy Coordinator of this committee was Sam Brown 26-year-old former Harvard divinity student who was quoted as saying (reported as a quotation of Sam Brown by Theodore White *U S News and World Report* Oct 27 1969)

> We've recognized the true nature of the United States We saw the United States attack Cuba it attacked the Dominican Republic it attacked South Vietnam The Communists are now a fragmented force the United States is now the great imperial staggressor nation in the world

At least 14 U S senators and numerous representatives took part in moratorium activities in either October or November many as featured

speakers on college campuses, including Edward M Kennedy, Edmund Muskie, George McGovern, and Eugene McCarthy Other national celebrities who provided speeches or leadership at major events were Dr Benjamin Spock, Rev Ralph D Abernathy, John K Galbraith, D ck Gregory, Mrs Martin Luther King Jr, and biologist George Wald (*Newsweek*, Oct 20, 1969) Other personages to endorse the moratorium were mayors John Lindsay (New York), Ivan Allen, Jr (Atlanta), and Jerome Cavanagh (Detroit), and governors Kenneth Curtis (Maine), Francis W Sargent (Massachusetts), and Frank Licht (Rhode Island), Bill Moyers, former adviser to President Johnson, Willard Wirtz, former Secretary of Labor, Tom Hayden, 'radical' youth leader, and W Averell Harriman, former United States peace negotiator in Paris (AP clipping in *The Daily Progress*, Oct 16, 1969, *Time*, Oct 24, 1969) According to one report, rank-and file newsmen dropped their usual display of neutrality to controversial events and took part by the thousands, signing petitions, attending rallies, and wearing moratorium buttons (*Time*, Oct 24, 1969)

The local leadership of the University of Virginia events was vested primarily in former supporters of Kennedy and McCarthy for president and in those who had been pressing the administration over the previous two years for active student involvement in the running of the University and for liberalizing a number of University traditions Several of the most active professors also spearheaded the faculty vote a month later to abolish academic credit for ROTC courses, a 30-year policy [19]

Although opposition to the moratorium came also from many quarters, it arose typically from several particular sources veterans groups, families of servicemen killed in the war, Nixon supporters generally, and conservatives On a number of campuses and in various communities the American Legion, the Veterans of Foreign Wars, and other veterans groups kept the American flag flying at full mast, sent telegrams to the President, and participated in counter demonstrations of various sorts The Young Americans for Freedom group at the University of Virginia sent discussants to present the other side at several moratorium meetings, and it threatened to sue the University if classes were canceled The Reverend Beverly McDowell, former candidate for Governor of Virginia on the Conservative party ticket, wired Governor Godwin to dock one day's pay from the salary of any professor who did not hold class on October 15 (AP, *The Daily Progress* Oct 14, 1969) Although Godwin did not follow this advice, he did intercede for a parent requesting that his dead son's name not to be used in a moratorium roll call (AP, *The Daily Progress*, Oct 15, 1969) Governor Maddox of

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[19] This policy was reviewed later in the year and modified again to permit limited ROTC credit

Georgia kept flags flying at full mast on state buildings although city flags nearby were at half mast Many Charlottesville merchants likewise dis played flags prominently on M-day Governor Reagan in California sent a directive to the presidents of the 19 state colleges prohibiting them from supporting the moratorium and to take formal disciplinary proceedings against professors who dismiss classes (*Newsweek* Oct 13 1969) Per haps the most vocal resistance came from Spiro T Agnew who called the demonstrators pushy youngsters and middle-aged malcontents (AP *The Daily Progress* Oct 16 1969)

Differing Meanings

Perhaps the greatest moratorium enigma was its purpose What specific directive was given by this diverse mass of Americans united by nothing more than a common wish to end a seemingly endless war"

As the extent of the forthcoming protest was realized it was hypothesized that so great a response would emerge only if what it symbolized were stated broadly enough to permit many persons to identify with the movement even when they were not necessarily in agreement on solutions In brief it was anticipated that the stated purposes of the moratorium would be overly general and that endorsers would stress somewhat different though not necessarily mutually exclusive functions when asked about it

To determine how people interpreted the meaning of moratorium activities (1) they were asked during an open-ended conversational type of interview and (2) statements made about its purpose were inspected in the document collection The first general question asked during the interviews was designed specifically to elicit the perceived meaning of the event The three parts to this question were asked sequentially in order to obtain increasingly precise interpretations These subquestions were—

(a) What s this moratorium all about (intended by it?)
(b) What do you think of it? Do you think its going to work? Why?
(c) To what extent does participation in it mean you want complete and immediate withdrawal of all American troops?

Responses to each of these questions were classified according to the phrasing used by respondents and the features they stressed with minimal interpretation by the classifier What emerged was a series of overlapping categories (for example to end the war" and "to protest the war) It was decided that each simple statement should be classified to determine the overall emphasis interviewees put on different though interrelated thoughts It seemed completely invalid to categorize each person only once as it was

impossible to tell what was the single uppermost idea in his overall response
Most responses embraced a complex of interrelated ideas, which included in
some instances 'getting rid of Nixon" or "protecting the South Vietnamese,"
along with such general platitudes as "ending the war" Certain responses
stated the means for achieving the objective, while others stressed the objec-
tives only

The great majority of students responded to the opening question by
stating, in effect, that the moratorium was intended to bring about an end
to the war or at least our involvement in it The phrases used were somewhat
different, responses dealing with the meaning of the event being made after
both questions (a) and (c) The latter question was asked to obtain as
precise an indication as possible of what students felt the moratorium sym-
bolized Table 6 7 presents the number of persons making essentially each
of the categorized statements either to subquestion (a) or (c)

A total of 88 statements from the 51 interviewees were classified Almost
all focused on the Vietnam war specifically rather than on such possible
tangential interpretations as part of the younger generation's protest of the
messed up world they have to face,' 'its relatedness to social upheaval
generally, or "part of the activist movement' Nobody mentioned the cost
of the war and what potential domestic progress was prohibited as a result
Only one or two remarks indicated directly the student's desire to "tackle the

TABLE 6 7   INTERPRETATIONS OF THE MEANING OF THE MORATORIUM
BY UNIVERSITY OF VIRGINIA STUDENTS (N = 51)

Item No	Statement of Meaning	No of Students
1	To effect a withdrawal of American troops	35
2	To end the war	14
3	To protest the war	12
4	To put pressure on government or President Nixon	11
5	To force Nixon out of office if he didn't respond fast	7
6	Left wing activity	2
7	'Hippies want to end war or make a fuss	1
8	To focus thought and show student interest in the war	1
9	To get out of school and dodge the draft	1
10	To protest government control, especially getting us involved in war without declaring it	1
11	To demonstrate against immorality at University	1
12	Don't know	2
	Total	88

establishment,' although items 4 and 5, in which putting pressure on the President or government was mentioned, could certainly be interpreted in this vein Surprisingly, only three persons referred to it as communist or hippie activity, and only one saw a possible tie-in with the idea of staying out of service A possible Freudian notion was not mentioned at all, namely, that guilt feelings in personally not being in Vietnam led to a downgrading of whatever virtues this war might otherwise represent Admittedly, the questions were not designed to probe so deeply as to permit an abundance of such content, but it is a bit surprising that the rather open-ended questions about such a controversial event did not stir up more "off beat" answers Apparently there was a widely held conviction that the moratorium was simply a means of showing widespread public opposition to the continuance of this war

Perhaps divergent viewpoints could be discerned better as other aspects of the data were examined Therefore, each respondent's answer to subquestion (c) was classified closely Unfortunate use of the personal pronoun 'you' in the phrasing of this question led some persons to answer in terms of their own feelings about withdrawal rather than to interpret what moratorium participants generally expected in relation to withdrawal of American troops It was possible, however, to separate from the rest those answers reflecting personal or irrelevant feelings and to summarize what participants meant by withdrawal, as 35 interviewees perceived it

The results are presented in Table 6 8 Statements were classifiable into one of six categories, according to terms used to define how soon participants wanted withdrawal to occur and how many troops were to return Of the 12 who indicated an acceptable time limit for withdrawal, 9 indicated three months, 1, six months and 2, a year One might readily infer that approximately three-fourths of the interviewees responding felt that participants were demanding withdrawal of troops under conditions that would be unacceptable to the President, whereas several others defined withdrawal conditions in a manner that probably would be acceptable, namely, "as soon as possible," especially if all troops were not involved In brief, it was found that considerable diversity of opinion existed about withdrawal conditions, ranging from a vehement and probably unrealistic "tomorrow morning will be just fine' or "one month from now' to 'I'd go slow, but get out by next year" or a qualified 'some will have to stay to protect the South Vietnamese, but pretty soon we should withdraw most' The last two responders, incidentally, both felt that the moratorium was a good idea and planned to participate, yet, their attitudes toward withdrawal seemed to be perfectly in line with those of the Nixon administration

Still greater diversity of feeling was evident as responses to other questions were analyzed Subquestion (b) really was three questions, typically

TABLE 6 8   MEANING OF 'WITHDRAWAL OF AMERICAN TROOPS"
             DESIRE BY MORATORIUM INTERVIEWEES

Meaning of Moratorium Participant	No of Interviewees	
	SINGLE CATEGORY	COMBINED CATEGORY
Immediately (now, right now)—all troops	4	
Immediately—some troops or number of troops not specified	11	15
Time limits cited—all troops	3	
Time limits cited—some troops or number of troops not specified	9	12
As soon as possible—all troops	2	
As soon as possible—some troops or number of troops not specified	6	8
Responded personally or gave no relevant answer	16	
Total	51	

asked all at once without waiting for answers in between As a result, only a third of the interviewees indicated what they thought of the moratorium themselves, whereas most persons responded to the second part of question (b), "Do you think it's going to work?' Not enough people bothered to respond to the 'Why? part of the question so that their answers could be coded

Sharp differences were apparent, however, on the first two parts of question (b) Of the 17 who voiced their own feelings about the moratorium, 11 thought it a good idea, but 6 did not favor it Several of the latter were rather belligerent in their reactions, one stating 'I'm going to class and I'm gonna stomp on anybody that tries to stop me" One planned to take a flag to class and threatened to join the Young Americans for Freedom group in suing the University if classes were called off

Table 6 9 summarizes responses to the question, 'Do you think it is going to work?' It is interesting that twice as many students felt it would not do any good as those who felt it might be helpful Probably this amount of pessimism could be attributed in part to the President's widely publicized statement just prior to the interviews that he would not be influenced by the moratorium Incidentally, four interviewees included in their responses to this question the administration's notion that the moratorium would help the enemy

TABLE 69   RESPONSES TO THE QUESTION "DO YOU THINK
IT'S (MORATORIUM) GOING TO WORK?

Response	No of Respondents
Will work (example might do some good)	10
Won t work (example these things never do)	20
Not sure (example I just don t know)	10
No relevant response	11
Total	51

In order to provide some validity checks on the data and at least obtain some measure of inner consistency responses of people were grouped not according to their expressed feelings about the moratorium (good bad not answered) and also on (1) their withdrawal of troops attitudes (2) their intentions of cutting classes and (3) their intentions about participating in other ways Intentions content had been obtained in the form of answers to the second major question on the interview schedule What do you plan to do? How are you going to participate?

Although cell frequencies were small in several instances necessitating the use of Bartlett's correction chi square values were significant in each instance Those who thought the moratorium was a good idea in contrast to those who were not sure or did not commit themselves and especially to those who thought it a bad idea were more inclined to (1) define the purpose of the moratorium as demanding immediate withdrawal or withdrawal within a prescribed time limit (2) cut classes and (3) participate in various moratorium events

With respect to participating themselves, of the 11 who felt the moratorium to be a good idea 7 planned to participate job responsibilities prevent ing at least 2 from doing so Slightly less than half (4 of 9 who provided an answer) of this group planned to cut classes but none of the 6 who acclaimed it a bad idea planned to cut classes Of those who did not state a position about half planned to attend rallies or participate otherwise while only 8 of 34 planned to cut classes It was concluded that there was a direct relation ship between expressed attitudes about the moratorium in general and sub sequent behavior

After the moratorium a number of interviewees were asked again whether they had participated and if so how Most of these persons reported doing what they had stated earlier as what they intended to do This was exactly what they had stated earlier as what they intended to do This was further confirming evidence of the validity of the original interview material

Summary and Conclusions

The Moratorium   Moratorium participation took a variety of forms, ranging from mere attendance at a rally or speech to organizing marches or initiating peace movement conversation with townspeople In comparison with activities staged elsewhere, those at the University of Virginia were not atypical   The University certainly was not unusual in its administrative decision to keep classes open, as approximately a third of the 32 colleges and universities reported on took a similar position   Other than canceling classes, only one type of event that occurred in more than three institutions studied did not occur at Virginia, namely, "reading names of the war dead

Perhaps the most obvious overall finding was the meagerness of participation at the University   Except for attendance at a speech of a United States senator, a major event in most communities, no activity was participated in by even a thousand people   Only three or four other events enticed over a hundred people   In those activities requiring active participation (for example, door to-door canvassing), only a handful turned out   If students were equally inactive elsewhere, the moratorium should not be interpreted as a *heavily endorsed* student mandate for peace in Vietnam   In the majority of colleges studied the use of class nonattendance was precluded as a measure of student support for the moratorium by faculty and administrative edicts not to maintain customary schedules

An interesting local finding was the discovery that press reports of attendance at local events tended to be exaggerated   One should be concerned, furthermore, by the fact that inflating figures is only one way to make routine happenings newsworthy   The accuracy of the press in reporting data on controversial matters has been questioned in other empirical studies (R Smith, 1967, Oberscall 1968)

Perhaps the most surprising finding had to do with the meaning of the event   Widespread differences were found in what the moratorium meant to various students   The antiwar movement generally had been full of symbolism   Many of the specific activities were highly symbolic (for example, mock funerals)   Yet the primary meaning of the moratorium itself was confused   To some, it represented a protest of all warlike activity   To others it stood for getting out of Vietnam   To a few, it seemed to be a protest of many social ills of which the war was only one   Perhaps the clearest evidence of confusion was found in the strikingly different interpretations of the time element in immediate withdrawal "   Apparently, thousands of people can be acting out their feelings in common activities and seemingly coordinated effort without actually having emotional commonalty   Certainly, those participating in the moratorium must have felt that their actions symbolized the

same things, but perhaps this concerted action, although arising from diverse feelings, is one of the forces that originate mass movements

Methodology Massive demonstration and large-scale protest movements have become common manifestations of the frustrations and sentiments of various segments of society As highly organized attempts to bring political pressure on those in authority, they may even challenge the supremacy of the ballot box and other traditional processes for implementing change As the slowness of democratic processes serves primarily to heighten frustrations in a world seemingly faced with increasing problems mob action may become the most expeditious means for resolving them The need to understand the workings of such action increases accordingly

Numerous attempts to investigate the race riots of recent years in Detroit, Los Angeles, and Chicago or the campus happenings at Berkeley, Santa Barbara, and Kent State, among others have been sadly lacking in objectivity and completeness Too often the data have been derived primarily from post-event interviews with participants whose emotion laden interpretations reflect primarily their limited vantage points

The importance of the present study is in its demonstration of how forth coming demonstrations, many of which are well publicized and can be clearly foreseen, can be assessed systematically and comprehensively by gathering information both before and during the event, as well as later Planned, orderly, direct observation of events as they unfold is absolutely necessary, if one is to separate what people actually do from what they think they do Perhaps the most striking way in which this study illustrated the importance of accurate observation was in the discrepancy that was found between actual numbers of participants and semi impressionistic journalistic reports of crowd size Superficial as such data are, they serve to prove the point

Another demonstrated strength of the study would seem to be in the quality of interview data derived, even though the phrasing of certain ques tions might have been improved As participant observers in upcoming or ongoing events of general concern, it is very easy to ask questions unob trusively in the normal course of conversation without invoking the arti ficiality or defensiveness that so often accompanies the survey type of interviewing or post-event interrogation The mere questioning of persons at times when the topic has already been brought up and when it is most cen trally focused in the minds of people, would tend to reveal more true feelings than when done in retrospect Although the interview sample in this particu lar study was too small and perhaps less representative of the student body than it might have been, responses obtained seemed to support conclusions reached from the observational data

The utilization of a variety of data sources, such as observational, inter

view, and documentary, provided material both for cross validation purposes
and for testing a number of interesting hypotheses regarding particular
events The complexities of naturalistic events of such scope, size, and dura
tion almost necessitate comprehensive measurement of the sort that was
attempted

The major deficiency in this moratorium study was in not obtaining ade
quate class attendance data The critical directive of absenting oneself from
class, as the primary means of protesting the war, provided the most impor
tant behavior to be observed for any investigation of moratorium response It
was strictly a planning oversight that class attendance was not counted
directly on the prescribed day and checked against both class rolls and
attendance on other days Interest in observing various moratorium events
caused an unfortunate neglect of this important task

Even if this count had been taken, however, it would have been necessary
to find out both what directives had been given by the faculty members
involved and how students perceived these directives before drawing con
clusions about student response Again, the importance of many data sources
is highlighted for naturalistic events of such magnitude

CHAPTER 7

School Learning
and Behavior

In this chapter, and to a lesser extent in Chapter 8 the spotlight is turned specifically on educational institutions and the kinds of naturalistic studies that would seem procedurally possible and currently needed Although many possibilities are suggested, they should be regarded primarily as illustrative of a larger number of potential studies Similarly, as with other sections of this book, school processes can be readily translated into other institutional processes While some school functions are unique, many are not Much investigative procedure regarding school structure and function reading is equally applicable to the factory, the office, or the church A careful reading about one institution should serve to extend one's awareness of how to study another institution

In keeping with viewpoints expressed earlier, especially in Chapter 3 institutions are usually too complex to be studied in their entirety through single investigations Institutional analysis is better accomplished by carrying

out a number of separate yet interrelated studies of various distinct dimen
sions In each instance, dimensions worthy of study are identified, research
able questions asked measurement procedures selected, and an overall design
developed Together, the several studies comprise a comprehensive plan for
analyzing a particular institution

In theory it is possible to divide naturalistic educational studies into two
broad types, those that focus on the learner himself and those that dissect
institutional structure or procedure In practice, of course, many studies
embrace both aims and actually attempt to determine the impact of one on
the other For discussion purposes, however, these two broad types are
separated, with Chapter 7 being devoted to studies of the learner and
Chapter 8 to those of his surrounding school environment

Although much is now available in published form about the nature of
boys and girls at various stages of their development, much more is still
needed Despite the insights of Piaget (1926) and recent efforts to replicate
his work, solid empirical data on children's thinking makes the area of
cognitive processes, including concept formation, almost virgin territory for
behavioral research Similarly, in the area of moral and character develop-
ment, only a handful of studies can be cited which equal the quality and
magnitude of the Hartshorne and May (1928) studies of the 1920s In spite
of the many allusions in popular periodical literature to the disintegration of
American morals, solid research evidence of such trends is nonexistent
because no one has systematically collected data through the years Unless
the pace of data collection is stepped up, furthermore, no one will be certain
of character trends a half-century from today Cognitive and character
development are but two of the many areas for which additional data are
needed

Normative trends need to be identified, not only as a basis for evaluating
the developmental status of particular children, but also for determining the
degree of uniqueness of specific institutional practices and procedures The
wide range of individual differences and the multiplicity of interacting factors
in the school setting suggest a great need for idiographic studies The latter
are virtually nonexistent in schools today, yet, with the expertise of the
modern behavioral scientist and the almost instantaneous data processing
capabilities of the modern computer, ordinary school systems have the poten
tiality for conducting better longitudinal studies of individual development
than did the major human growth centers of 20 years ago As Allport (1962)
suggested it is truly time that attention be given to idiographic as well as
nomothetic research The essence of individuality is never preserved in the
latter alone

Along the lines of the preceding prefatory remarks, the remainder of this
chapter identifies briefly some of the numerous possibilities for studying
children and young people within the school setting Some studies represent

small-scale, heuristic attempts to investigate various dimensions of the educative process in an exploratory fashion. Their primary value may be an instructional one, alerting educators and student researchers to significant behavioral cues and patterns that they might not otherwise notice.

Presented here also is a selection of studies from behavioral science literature in which important educational process dimensions are examined. By examining events as they occur in natural settings, the naturalistic researcher attempts to pinpoint the influential variables. He proceeds to define them operationally and then to accumulate solid empirical data so that he can determine behavior base-line rates that appear to be both stable and sensitive to these influential variables. In this way, the stage is set for the usually more costly and laborious experimental group design or single subject investigations in which these variables may be isolated and further studied to determine the extent of their influence in controlling or explaining behavior.

Consistent with the biases expressed previously, most of the studies required careful delineation of the response units to be measured. In several studies, only the general settings to be observed were selected and data were recorded continuously without special manipulation of antecedent conditions for research purposes. In many other studies, setting conditions were "naturalistically" structured for research purposes. In almost all such instances, conditions were manipulated by the regular institutional operator (that is, the teacher) and took the form of routine school assignments or ordinary teacher led class activities. Every effort was made to keep the overall atmosphere of the class as natural as possible and not to emphasize more than other school tasks, those tasks designed primarily around research purposes. Thus, the stimulus situation appeared to the subjects as a normal institutional request rather than one by an outside research investigator. Contrived and standardized situation checklists became the main vehicles for collecting data in such studies.

In keeping with the overall orientation of this book, ideas are stressed about observational dimensions to be measured. In many instances, of course, the use of tests and other formal measuring devices would also be desirable, to provide supplementary information about the qualities in question. Theoretical discussion is limited, for the most part, to the mere raising of questions under each topic; and brevity characterizes the reports of studies in order to present a broad array of research models economically.

COGNITIVE DEVELOPMENT

The great majority of studies designed to discover the nature of cognitive development have employed test instruments and, occasionally, individual questioning techniques, rather than observation, as primary data

sources Such procedures seem to be demanded by the nature of the subject matter, namely, internal mental structure How else can thought processes be explored than to have subjects react to various types of precisely defined mental tasks? Children's reactions, furthermore, must be uncontaminated by the reactions of others at the time they are made, otherwise, it would be difficult to separate individual thought from interpersonal effects Thus, mental measurement of cognitive processes seems to demand private, unrehearsed, and spontaneous responses to mental tasks of various sorts, the very qualities of a good test

Despite this need for tests, naturalistic observation has also produced cognitive data Much of Piaget's highly important work was conducted naturalistically and without the help of formal tests He invented his own mental tasks to test out the hunches he developed, and he obtained many of the hunches themselves from watching and listening to children at play

Daily activities especially at school, present innumerable opportunities for identifying mental processes at work No one has yet attempted to record the various intellectual problems faced and decisions reached by an individual in the course of a single day, yet, personal reflection leads one to suspect that such problems and decisions could easily number in the dozens and perhaps even the hundreds on some days How to get in touch with a good friend? How to fix a jammed door or stuck window? How much food to buy at the grocery? An endless number and variety of mental tasks are faced daily by adults and children alike

When children are put to work at school on various types of assignments, even casual glances reveal marked differences in the way they attend to stimuli and tackle these assignments Listening to questions they raise and responses they make during recitation cannot help but provide the close observer with much insight about how their minds work Even in traditional schools, careful scrutiny of student performance, as it is elicited in ordinary school activities, can reveal much useful cognitive data

In those modern schools where individualized tasks have replaced class assignments, where evaluation conferences have replaced grades and report cards and where learning centers have replaced classrooms, the possibilities for close study of cognitive processes have become still greater Teachers are expected to hold private, informal conferences with pupils about the tasks they are working on and the progress they are making Questioning about a given set of tasks could easily become standardized for investigative purposes, without altering the learning climate detrimentally or making the interview artificial Teachers would merely ask a few questions in the same way for each child at the same place in a particular learning task Similarly, since some of the tasks at each learning center are often programmed in a

given way and children work at these tasks one at a time, private individual attack styles to similar learning situations become readily observable

The need for naturalistic studies of cognitive processes is great, in part because so little has yet been done Some of the studies in this chapter are hypothetical only because most of the work that has been done to this point has come either from laboratory types of designs or from specially developed test materials The latter are highly suggestive of procedures and problems that could be adapted rather readily to classroom settings Because of this adaptability, as well as the significance of the understandings about cognitive development that have emerged from these recent studies, references are made to several test based laboratory studies in the section to follow

Logical Thinking

What is the precise nature of children's thinking at a given grade level with respect to space and time dimensions quantity number relationships, causality, morality, and a host of scientific and ethical matters?

What logical sequences of thought processes exist within particular subject matter fields? To what extent can intensive training produce alterations in sequences or in the timing of particular stages of mental development? What teaching methods and content stimulate the greatest transfer effects and produce the most lasting results?[1]

First Illustrative Study [2]

Problem To teach five-year-olds the quantification of inclusion relations that is, the quantitative comparing of two classes, A and B, in which one (B) contains the other (A) and to see if any such learnings apply equally well to verbal problems as to picture or object problems.

Procedure Direct teaching was provided, aimed at bringing about insight into the nature of the intellectual task

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[1] The questions raised in each section of this chapter indicate the theoretical area under consideration, so that its general significance can be appreciated The particular studies presented in capsule form were chosen merely to illustrate the way in which studies might be done within regular school settings, and may or may not be related directly to any of the specific questions raised Each capsule report, furthermore, will be set off from other material by smaller-size type Within reports, natural quotations from original sources will be indicated by the use of quotation marks To save space, key terms may not be defined until they are described operationally in a later section of a capsule report

[2] A study by G A Kohnstamm in Sigel and Hooper (1968) The Sigel Hooper volume contains many current research studies of children's cognitive processes, stressing especially Piaget's theories about the concrete operations stage of development With minor adaptations, they could readily be replicated in regular school settings, utilizing teacher or programmed instruction

Experimenter	*Subject*
In the whole world are there	
(5a) More animals or more cows?	More cows
No, that's not right You're supposed to say that there are more animals, because cows are also animals Cows, horses, sheep, dogs, and cats are *all* animals and so there are always more animals	
(6a) More dresses or more clothes?	More dresses
No, that's not right, . (etc)	
(7a) More men or more policemen?	More men
Yes, that's right, why?	Because there aren't *so* many policemen, they're only on the street.
No, you're supposed to say that there are more men because policemen are also men Don't you remember?	
	Yes
Now, more men or more policemen?	More men
Yes, very good, why?	Because men er . because policemen are also men
Very good, do you understand? . (etc)'	

Explanations were given only after the child had produced a scorable answer, right or wrong, to questions like those above

Children were divided into three approximately similar groups by age, IQ, and sex Group I received instruction only with verbal problems Group II was given problems containing pictures of various objects and, *after the* pictures, was also presented with group Is verbal problems Group III received instruction with concrete objects (Lego building blocks of various colors and sizes), and later with both pictures and verbal problems Two weeks later, group III was presented again with all three sets of problems

Variables Measured (a) Correctness in identifying the smaller and included class, as distinguished from the larger and including class, (b) form of problem presentation (words alone, pictures, and blocks)

Findings Of the 20 children in each group, 6 from group I, 8 from group II, and 18 from group III learned to answer leading questions correctly Both groups II and III were able to transfer their learnings from the first task form they were taught onto the other form(s) to which they were also exposed After a two- to three week period, the learning acquired by group III was still completely intact

Second Illustrative Study (Roeper and Sigel, 1967)

Problem To teach highly intelligent five-year-olds various cognitive operations, including conservation ability

Procedure Over a three week period of three 20 minute sessions per week, 10 high IQ nursery school children were exposed to a sequence of

guided observations, Piaget type questioning, and group discussions designed to provide concept understanding of three processes prerequisite to conservation ability *multiple classification, reversibility,* and *seriation* With each process, simple examples were presented and discussed until the children's comments seemed to indicate genuine understanding Often, as one child grasped the underlying idea, he would then try to explain it to a peer After several examples of a given concept were introduced, the children were led into a verbalization of it

One of the techniques used to introduce *multiple classification* was to place various objects on the table and have different children collect certain things that belonged together One youngster was asked to pick out all red things another, everything that writes etc When two youngsters found themselves reaching for the same object, they were led to the generalization that an object can be two things at the same time

'The same method was used to show *reversibility* Each child received five pennies There were five children They counted all their pennies and then were asked to put them in the middle of the table The first comment was, "It is more , then doubtfully, It looks like more' Then they were asked, "If each child were to take five pennies back, would there be any left on the table?" The reaction was doubt and confusion Next, the experiment was repeated with five pennies only This time the process was obvious Youngsters could see the solution better Once they were convinced of the situation, the same procedure was used with the larger number of pennies Objects can be grouped in different ways, but can always return to their original form if nothing has been added or taken away Thus, the children were able to realize that, sometimes, things seem different from what they are

'*Seriation* was approached in a similar manner By this time the children were already aware of the method and were able to react in a faster and more sophisticated fashion For example One apple is less than two apples, two apples are less than three apples In the personal area father is bigger than mother, mother is bigger than Mary, therefore, father is bigger than Mary This is a logical deduction of a transitive nature and an ingredient in logical thought

'It became apparent to us that it is important to prove these concepts by many different examples and to carry out with the children the thought processes that lead from the particular to the general and back again Verbalizing and clarifying these processes made the children familiar with them and enabled them to apply the same processes independently It seemed that being able to generalize did not automatically mean that the child could generalize to a new particular situation, but once he had experienced the process, he was better able to do it for himself'

Variables Measured Conservation ability on substance, weight, volume, and liquid substance, before and after training, and for a control group without training

Findings Although the training and control samples were too small to make tests of significance meaningful, conservation was in evidence for about half of the post-training trials for the former, but, except for one control child, for none of the tasks for the control sample's second testing In the pretraining testing, conservation was negligible in both groups Furthermore, the trained children verbalized their explanations satisfactorily, often employing statements of reversibility

Categorizing and Conceptualizing

On what bases are objects cognized? How does classification ability change with age? What object and idea dimensions are utilized at various ages for grouping separate objects and ideas? To what extent can intervention programs alter the attainment of grouping skills? What relationship exists between classification ability and school achievement?

First Illustrative Study [a]

Problem To ascertain the basis on which different verbal items in an array are alike, to identify pupils who typically base their equivalency rationale on *functional*, that is, considering what the items do or can have done to them, rather than on *perceptible* factors (color, size, etc), to determine which pupils typically group on a *superordinate* rather than a *complexive* or *thematic* syntactical basis

Procedure As a fourth grade class assignment (or at a learning center), present the words *banana* and *peach* and have children write out how they are alike Then add *potato* to the list, first asking how *potato* is different from *banana* and *peach*, and then asking how *banana, peach*, and *potato* are alike In similar fashion, the following items are added one at a time, with pupils writing down the answers to the two questions in each instance *meat, milk, air, germs* At the end of this list, pupils are to be asked how one more item, *stones*, is different

A second array is presented in similar fashion, made up of equally more distant items, though they continue to share a common characteristic with each other *bell, horn, telephone, radio, newspaper, book, painting, education*, and (as the contrast item) *confusion* Other arrays could be made up for similar purposes, using names of countries for geography, people for history, etc , to tie in closely with academic content

The bases of classification are coded and tallied for each child according to Olver and Hornsby's classification types

Variables Measured (a) Equivalence basis for each alikeness comparison

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[a] A hypothetical study modeled after Olver and Hornsby in Bruner et al (1966) Many variations are suggested by this work, including testing possible relationships between classification ability and school achievement, determining differences in classification ability with items taken from various content areas, and evaluating attempts to teach classification skill

(functional, perceptible, or other) (b) type of grouping (superordinate, complexive, or thematic) (c) number of each type (d) difficulty of the comparison

Expected Findings Over 80 percent of the grouping structures are of the superordinate type and over 70 percent of the bases of the groupings are functional The amount of complexive grouping with perceptible bases is greater on the difficult (that is, more distal) items than on the easy items

Second Illustrative Study [4]

Problem To ascertain (a) residual, conceptual meanings regarding works from American literature covered in the previous year's high school English course, and (b) relationships of those meanings, with teaching emphasis given to various works

Procedure At the beginning of the American literature course, as well as one year later, all students are given a literature sorting test consisting of the names of the 30 works of literature (poems short stories, novels, etc) that are included in the course of study and intended to receive the greatest stress during the course During the year a log is kept of the amount of instructional time (to the closest 10 minutes) devoted to each work of literature Similarly, a record is kept of the amount of reading assigned on each work (none, one page, one to ten pages, ten to a hundred, more than a hundred)

The test is constructed so that each student has a packet of 30 small pieces of paper (1 by ½ inches) each containing the name of one of the works of literature, arranged in similar, though random, order and a number Instructions are as follows

1 (Pretest) 'You each have a packet of papers containing the names of works of literature that we shall be studying this year Some of these you probably already know well, others you know something about, and some you may never have heard of So that we don't spend too much time on literature that you already know and to give me an idea of how these works should be organized, please go through the packet, sorting items into three piles according to whether you think you know them a) rather well b) only a little bit· or c) not at all"

2 (After this step is done) Now make a list of the numbers of each item of the ones you think you know rather well Make another list of the numbers of those you don't know at all'

3 (After the lists are completed) 'Now put the pile of items you don't know at all to one side Your next job is to lay all of the rest of the items (piles a and b) out in front of you so you can examine them more easily Looking at this whole collection, put all the items that seem to belong together into groups The groups may be large or small, any size you want as long as the items in each group belong together for a reason There aren't any right

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[4] A hypothetical study modified from Chapter 4, 'Categorizing and Conceptual izing,' in Wallach and Kogan (1965)

or wrong answers to this, as I am merely trying to determine what is the best organization Every time I do this with someone, the groups turn out differently So you see, any way you feel like making groups is fine, as long as you have some reason for it Once you make the groups, you can add to them or change them, and if there are any items left over at the end that don't seem to fit into any of your groups, you can just leave them separately Do you all see how to do this?—Good Now take your time, there's no need to hurry And remember that your groups can all be different sizes O K Go ahead

'Now on another sheet of paper list the numbers of each group of items and for each group explain briefly why you think they go together Also make a separate list of any items that you didn't group with any others Remember that there are no right or wrong ways of sorting these items, so long as you have reasons State briefly what it is in order for me to see what factors you are considering'

Similar instructions are given in the post testing except that the talk begins on the basis that "these are works of literature, most of which you were exposed to last year You may even remember sorting a similar pile last fall before starting the course We want you to do this again with a packet of items a good bit like the ones you sorted last year Your doing this will help us decide where to pick up in English this year, so as not to have too much overlap or too many gaps in literature training" (Then repeat sorting procedures and instructions)

Several indices are then computed based on these sortings A *conceptual differentiation* percentage is computed for each pupil by dividing the number of groups he made by the total number of items he sorted into piles (a) and (b) together A *compartmentalization* percentage is also computed by dividing the number of singles (items left ungrouped) by the total number of items in piles (a) and (b)

Reasons for sorting items into groups are then coded into (1) single or multiple reasons per group, (2) descriptive, inferential, or relational categories (3) other category systems linked specifically to literature types (examples tragedy versus comedy, novels, poems, etc)

Variables Measured (a) Expressed knowledge of literature, (b) size of groups, (c) number and type of reasons for grouping items, (d) number of ungrouped items, (e) change in expressed literature knowledge (follow up testing for validation purposes might well be done to see how much pupils really do know about various literature works), (f) amount of time devoted to various literature works (g) length of assignments in various literature works (h) pupil achievement in literature (course grade, reading level, etc), (i) sex of pupil

Expected Results (a) Compared to pretesting post testing should indicate greater expressed knowledge of literature, a larger number of groups and smaller size of groups, fewer ungrouped items, more inferential and relational and less descriptive groupings, and a greater use of multiple reasons in grouping (b) Males should use broader groups than females and

proportionally more descriptive and inferential but less relational grouping (c) The amount of emphasis given to particular literature should correlate with amount of expressed knowledge and the number of reasons given per grouping (d) Good students should show more inferential grouping and greater multiplicity of reasoning than poor students

Information Seeking

In what ways do children seek information and try to become more knowledgeable? What kinds of questions do they ask? How extensive are individual differences in information probing patterns among children the same age? between ages? between sexes? between content areas? To what extent can information probing strategies be taught?

First Illustrative Study[5]

Problem (a) To determine what proportion of a fourth grade class and which individual pupils tend to utilize more constraint seeking than hypothesis scanning strategies in games of 20 questions (b) to find out if practice through both watching and actively playing 20 questions as well as class discussion of constraint seeking strategies leads to increased use of constraint seeking strategy)

Procedure (a) The names of 42 persons are written in alphabetical order of last name on the board in six columns and four rows The names of persons should all be familiar to pupils, many coming from previous school work such as Paul Revere or Florence Nightingale In constructing the list, approximately half the persons listed should be female and half children Fourteen of the persons should be identified with literature including comic strip characters 14 historical personalities, including inventors soldiers and heads of countries or their wives and 14 television or movie entertainers and sports figures Several of each subtype should be included in each instance The entire list is gone over by asking how many pupils know who the first person is asking for raising of hands to so indicate and having someone identify the person for those who don't know

(b) Then the teacher might say something like this   To help familiarize yourselves further with who these people are since we all should know as much as possible about famous people I am going to play some question asking games with you I'm thinking of one of these people and your job is to find out which one it is that I have in mind To do this I am going to go around the class (starting in one corner of the room) and let each one

[5] A hypothetical design for ordinary classroom usage based on Mosher and Hornsby in Bruner et al (1966) Many possibilities exist for varying the sample design in accordance with particular curricular needs By selecting specific items closely from content being studied the question game can serve as an interesting review or an introductory instructional technique and may be continued to provide data on children's questioning strategies

of you ask any three questions you want that I can answer by saying 'yes'
or no. You should listen carefully to the questions others ask because,
when your turn comes, you will have only three questions and you wouldn't
want to waste one by asking one that has already been answered'

(c) During the game an observer codes each question on a checksheet,
listing the pupils according to the seating arrangements. Instantaneous cod-
ing of questions is to be done according to the following pattern. C stands
for a *constraint seeking* question, that is, it refers to two or more persons and
a yes answer cannot solve the problem, H stands for *specific hypothesis*,
in which a particular person is named and P stands for *pseudoconstraint*,
when a specific hypothesis refers to only one person but is phrased like a
constraint question by referring to an attribute that characterizes only one
person (for example, a 'Walt Disney character,' assuming only one is in
the list, or our first President.)

A portion of a sample checksheet is presented below as questions have
been categorized. The question that solved the problem is circled and the
name of the famous person filled in opposite the name of the pupil who
asked it.

Student	Quest No 1	2	3		Student	Quest No 1	2	3
John Worley	C	H	H		Mary Adams	H	H	H
Bill Brooks	C	C	H		Mark Brandt	C	C	C
Sue Martin	H	P	H			Queen Elizabeth		
Jim Connor	H	H	H		Sylvia Cohen	C	P	(H)
	Bob Hope				Doug Wilcox	C	C	H
Tim Jones	C	C	(H)					
Betty Johnson	C	H	H					

(d) After each pupil has taken at least one turn for observer assessment
purposes, the teacher can have pupils practice in pairs or continue to prac-
tice as a total group. Records should be kept of how much practice is done
on this particular array of persons over several days of practice, with at
least one observer checksheet filled out each day.

(e) Occasionally, children should be asked during class discussion how
they had played the game if they had a system for getting the answers,
and if they thought any particular kinds of questions were better than others
for getting the answers with the fewest questions.

(f) Constraint-seeking frequencies and percentages should be calculated
for each pupil for their first two questions especially. Totals for each day's
sessions should be determined and comparisons made of daily sessions to
determine if increased constraint seeking occurs over time. Also, the total
number of questions asked per person should be calculated on a daily basis
and compared over the total practice period.

(g) For determination of possible transfer effects to other types of con-
tent a second array of 42 items could be used before and after all of the
practice with the famous persons array. "Well known titles," including

songs stories books comic strips television shows movies etc and Well known places including cities countries lakes regions etc offer good possibilities The same materials of course should be used both before and after as different arrays are likely to stimulate differing amounts of constraint-seeking

Variables Measured (a) Amount of each type of questioning (b) number of questions asked before solution (c) approximate amount of practice (d) individual pupil-questioning strategies

Expected Findings Considerable pupil variation in type of questioning and significant practice effects leading to an increase in constraint-seeking strategy on both the practice and transfer arrays

Second Illustrative Study (Johns 1967)

Problem To study the nature of questions that children ask their teachers in nursery school and kindergarten

Procedure The investigator observed an hour and a half daily for ten days in each of three classes a three-day nursery class with both a teacher and an assistant teacher a five-day nursery class with a single teacher and a five-day kindergarten class with a single teacher He recorded long hand all questions that children asked their teachers during this time Questions were coded according to a modified version of Piaget's (1926) classification system for young children's questions To Piaget's categories was added the lead in type of question which generally took the form of Know what? and was expected to be followed by a negative reply after which the child was expected to be told some information to the person questioned All questions were tallied according to their classification

Variables Measured Frequency and type of questions asked

Findings The frequencies and percentages of each type of question asked in each of the classes is presented in Table 7 1

Perhaps the most striking finding was the large difference between classes in the total number of questions asked despite the fact that classes were observed the same amount of time Although the 15 children in the three-day nursery class had two adults whom they could question they asked only a third as many questions as the other nursery class with only 11 pupils and a sixth as many questions as the kindergarten class of 14 pupils

Significantly ($p < 05$) greater proportions of questions dealing with human actions and intentions were asked by the kindergarten class than either the three-day or five-day nursery class The three-day nursery group asked a significantly greater percentage of lead in questions than did the kindergarten class No significant differences were found between the two nursery groups

Significant sex differences were also found with girls in one class and boys in the other nursery class asking a greater proportion of questions relating to reality and history Girls furthermore asked a greater proportion of questions relating to human actions and intentions than boys in the five day nursery class

TABLE 7 1   TYPES AND FREQUENCIES OF CHILDREN'S QUESTIONS
OF THEIR TEACHERS IN THREE PRESCHOOL CLASSES

Types of Questions	Three day Nursery, n = 15 f (%)	Five-day Nursery n = 11 f (%)	Kindergarten n = 14 f (%)
Human actions and intentions	50 (49 0)	178 (52 2)	370 (60 0)
Reality and history	28 (27 5)	79 (23 2)	158 (25 6)
Lead in	20 (19 6)	46 (13 5)	64 (10 4)
Rules and usage	2 (2 0)		
Causal explanation	1 (1 0)	10 (2 9)	11 (1 8)
Why s of motivation	1 (1 0)	15 (4 4)	8 (1 3)
Why s of causal explanation		12 (3 5)	2 (0 3)
Arithmetic		1 (0 3)	1 (0 2)
Why s of logical justification			1 (0 2)
Reflex			1 (0 2)
Classification and valuation			1 (0 2)
Total	102	341	617

SOURCE Johns, 1967, unpublished report

Concept Development

How do children at particular ages define and describe key concepts in various content areas? What is the nature of their conception of all sorts of phenomena? How do their conceptions change with experience and maturity? How effective are particular school activities and instructional activities in producing accurate, differentiated conceptual structure?

Illustrative Study (hypothetical study related to Bobroff, 1960, and Kohlberg 1964)

Problem To discern the specific nature of concepts of "fair play" held by a fourth grade class

Procedure Verbatim records should be made, for base-line measurement and later classification of all arguments and foul play complaints that arise in the course of recess and other free play activity during the first month of school Classification and tallying of all such remarks should be made on the basis of (a) name of complainer (b) name of complainee, (c) general activity or setting such as playing marbles number of persons present (d) specific nature of complaint, such as playing out of turn (e) to whom complaint was voiced

During the second month the teacher interrogates as nonthreateningly as possible at the time of fair play arguments and complaints until pupil ideas have been expressed not only regarding the issue itself but also about what reprisals, restitution or actions should be taken to bring about justice Open-ended questions should be asked at the time of the argument or complaint such as 'What do you think should be done about it? What would be more fair? Why isn't John playing fair? Do you think John thinks he's not being fair?—John's mother? Further classification and tallying of anecdotally recorded or taped material should be done covering the spontaneous expressions of restitution and justice-producing action

Comparisons might be made of the types and frequencies of spontaneously emitted expressions about fair play as obtained in the above manner and those obtained from short writing assignments on such topics as 'Playing Games Fairly' or in response to short transgression stories for example Bill and Joe were playing marbles one day Suddenly Joe got very mad and shouted 'You cheated What do you think Bill did that made Joe get so mad? What would have to happen before Bill would feel all right about it again?

Expected Findings Some discrepancy would exist between (a) the spontaneously emitted expressions during real situations and (b) those revealed in a writing assignment Although individual differences would exist general rules and principles of the game would be cited more frequently than status issues (for example 'he always wants to be first or playing out of turn) Restitution would seem to vary with judged intentionality of the foul play and whether the pupil shows relativism in his judgment, by recognizing differences in how John and John's mother perceive his actions

Class Participation

What variations exist among pupils in discussion participation recitation volunteering distractibility attention-seeking and other specific response patterns to various class activities? What variations exist in responsiveness of the same pupils from one class activity to another one content area to another? How does curricular responsiveness vary among high average- and low-ability youngsters among boys and girls among high and low-status pupils? What class activities are particularly suited to low ability pupils?

Illustrative Study (Davis 1965)

Problem To find out whether those students who talk the most in class know more or less about the subject than those who talk the least

Procedure For ten consecutive class periods in a college chemistry course a class member acting in the role of participant observer and appearing to be taking ordinary notes for the course recorded the appropriate initials of a class member each time one spoke in class Also recorded was an indica-

tion of whether the comment was a question (Q) or a response (R) to the professors questions An achievement test was given on the content of the course during this period Mean achievement differences between the group participating more frequently than the median frequency of participation and the group participating less actively than the median were tested for significance Similar t tests of mean differences were calculated for groups, based on questioning activity alone and again on response activity alone

Variables Measured (a) Knowledge of chemistry content presented during the period of this study, (b) frequency of talking in class, (c) type of student talk, that is, question or response

Findings The more active class members were significantly more knowledgeable in the content covered Significant mean differences in their favor were found regardless of how participation activity was determined that is, on the basis of total times they talked in class or on the basis of either questions alone or responses alone Two of the 14 class members accounted for 62 percent of the total amount of student talk

Thinking Style

What variations occur in basic thinking patterns, such as occur during evaluating versus explaining, in pupil's reactions to literature, or to various intellectual assignments? To what extent are cause-and-effect relationships identified by children at particular ages? How stable are individual differences in cognitive style from discussion to discussion, content area to content area, situation to situation?

Illustrative Study (hypothetical study based in part on Taba, 1962, and Gallagher, 1964)

Problem To determine the extent of relationship between type of teacher questioning and style of pupil response during class discussion of novels and other stories

Procedure Tape recordings are made and later transcribed of several class discussions of stories that have been read outside of class Each teacher question is written on a separate card for independent classification Similarly, each pupil statement is written on a separate card

Cards are sorted into various piles according to the following classification schemes

(a) Teachers' comments are classified into (1) questions and (2) statements

(b) Teachers questions are coded (1) *cognitive-memory*, primarily requiring ability to remember (example 'When was the Spanish Armada sunk?') (2) *convergent thinking*, calling mainly for putting facts together in a logical and sequential order (example "What do you think were the major causes of the Revolutionary War?), (3) *divergent thinking*, with

multiple rather than best responses being called for (example If the British had won how do you think our life today would be different from what it is?) and (4) *evaluative thinking* requiring judgment along some value dimensions (example Do you think Washington Jefferson and their contemporaries were better off than they would have been if we had lost the war? In what ways?)

(c) Teachers and pupils statements are sorted according to the following system

(1) *Projections* attempts to understand the story to explain and to evaluate the behavior and to propose reasonable action for the solution of the dilemmas described These were further subdivided into the following types of statements

(i) *Explanations* statements that explain behavior by stating cause and effect relationships explaining motivation or analyzing the circumstances that made the behavior necessary ("The colonists had become very independent and were used to taking care of themselves")

(ii) *Evaluation* statements that evaluate behavior by applying some general principles ("The British generals did not seem to be good leaders They were outfoxed several times)

(iii) *Action* statements that suggest courses of action for the characters in the story ("The British might have put Samuel Adams and other American speakers in jail)

(iv) *Experience* statements that attempt to explain behavior through illustrations from personal experiences

(v) *Facts* statements that merely give factual items for the story without interpretation reasoning or evaluation

(2) *Generalizations* interpretations carried beyond the immediate facts given in the story and which involve distillations of many facts and attempts to express the principles governing the events and behaviors Two types of generalizations are further distinguished generalizations that are merely inferences from the immediate facts of the story, and normative generalizations that express moral norms regarding the right type of behavior

(3) *Self references,* statements expressing references to or applications to personal experiences

(4) *Irrelevancies,* statements without bearing on or connection with the points of the story under discussion (Taba 1955 pp 110–111)

Cards of teacher questions and those carrying pupil statements are then paired according to their original discussion sequence Frequency counts are next made of each type of pupil response to the four types of teacher questioning converted to percentages and ordered in graphic or tabular form for easy inspection of findings

Expected Findings A close relationship will exist between type of question asked and type of response *facts* tending to follow *cognitive-memory* questions *explanations* *convergent thinking* questions *evaluations* *evalua-*

tire questions, etc. A greater amount of pupil generalizing is likely to occur in response to all other types of questions than to *cognitive-memory* ones. Self references and irrelevancies are likely to be greatest following *evaluation* and *divergent thinking* questions.

Work and Study Habits

How efficiently do pupils use their study opportunities? What powers of concentration do they demonstrate under varying conditions of distraction? Do they manifest particular learning sets, styles of attack, or orderly routines for getting started on assignments? What review procedures do they use? When and how do they tackle long reports, short textbook assignments, and other kinds of academic tasks?

First Illustrative Study (hypothetical)

Problem To determine "normal" reading rates for types of reading material for particular children, to explore the relationships of reading speed with other factors.

Procedure At the beginning and end of study and reading periods, have pupils routinely record on log sheets the books being read or assignments tackled, with pages read, problems completed, or amount of work accomplished. Occasionally, the teacher should check on the validity of children's log notations by unobtrusively observing where particular pupils start and stop work, by strolling by their desks during the first and last few minutes of given periods and making separate records for comparison purposes.

Approximate word counts are made for each child during each reading period and converted to a words per minute basis, by counting the numbers of words in six lines of text, lines per page, pages read, and minutes spent reading. The assumption must be made and should be checked that distraction time is negligible during such periods. Actually, an observer could watch several children or the entire class, if it is very quiet and orderly, and derive an estimate of the amount of time each child is not engaged in reading during these periods by point sampling. Correction figures could be used to cut down on the total reading time, as it has been logged, before calculating reading rates. The precise procedure for observing the reading patterns will depend to some extent, therefore, on the overall order and concentration of students during such periods. The greater the order and concentration, the more accurate an estimate the log figures are of actual reading time and the less need for child by-child observation.

The grade levels of books should be determined from regular lists of graded materials or by means of one or more formulas for estimating the difficulty of reading materials. Records might well be developed showing for each child his speed of reading materials at, above, and below his tested reading level. Comparisons of books "enjoyed most" or "learned most from," as revealed by children's comments about them might prove startling in terms of reading rate. For example, do children gain the most from rapidly read or ploddingly read books? It is likely that individual differences abound in

this respect and teachers need to be aware of which orientation particular pupils are most responsive to

Variables Measured (a) Difficulty of material being read, that is, grade level equivalent, (b) reading rate, (c) tested reading ability of pupil (d) knowledge of material read, (e) expressed enjoyment of material read

Expected Findings A considerable range of reading rates will exist in most classrooms Most pupils recreational reading will be at faster speeds and lesser levels of difficulty than their tested reading ability Similarly, books read rapidly will be remembered longest and enjoyed most Children whose recreational reading rate and difficulty level is most discrepant with respect to regular class work will have the most trouble in their regular school reading assignments

Second Illustrative Study (Hudgins, 1967) [6]

Problem To determine the correspondence between direct observation of students' attentiveness in class and the relevancy of their thoughts with respect to the classroom topics under discussion

Procedure A pair of observers was sent five times a week to each of nine sections of a junior high school English course to obtain data on group attentiveness Several times during the period, the observers interrupted the class to ask students to fill out brief questionnaires on what they had been thinking about immediately before the interruptions and estimating their degree of attentiveness These self reported thoughts were later classified on a scale from "negative social involvements to subject matter relevance," indicating greater and lesser degrees of relevance with respect to the class room content under discussion

Variables Measured (a) Observed attentiveness (b) self reported attentiveness (c) relevancy of thoughts regarding class subject matter; (d) teachers' estimates of group attentiveness

Findings In five of the nine classes, significant correlations, ranging from + 0 52 to + 0 70, were found between observers estimates of attentiveness and self reports of attention In only two classes were observers' estimates of 'thought relevancy' significantly related to what the students themselves reported about their thoughts Teachers judgments were in the same direction as observers' estimates of attentiveness, but were not so much in agreement with student self reports

Third Illustrative Study [7]

Problem To detect the specific nature of pupil study habits and the extent of nonrelevant side activities

[6] The Hudgins study and other studies of classroom attention have been reviewed by Jackson Among Jackson's conclusions are statements that attention in class, even when crudely estimated by outside observers is significantly related to other educational variables such as achievement test scores and ratings of teacher effectiveness (Jackson, 1968, P 101)

[7] A proposed study based in part on Taba's (1962 PP 250–251) suggested time and motion observations

Procedure Observe one pupil at a time for at least a 5-minute period during study time Record each distinct molar activity that occurs for as long as 5 seconds (estimated duration) With an accumulative stopwatch note the extent in seconds of each study-oriented activity, the specific nature of the study task, and the progress made (number of problems completed) during the observation period Over a period of several weeks, each pupil should be observed in at least four study situations and for at least a total time of 30 minutes Each student's records should be processed by computing the percent of total observed time that he was actively working or engaged in study-oriented activity, the average duration of study-oriented activities, and the number and type of nonrelevant side activities

An illustration of the kind of observer recording needed is provided by Taba (1962, p 251), as modified here

Time and Motion Observation—Arithmetic

Time	Activity	Time	Activity
11 32	Stacked paper		*Paper down, read again
	Picked up pencil		Fidgeted with paper
	Wrote name		Played with pencil and
	Moved paper closer		fingers
	Continued with heading		Watched me
	Rubbed nose		Watched L.
	*Read problem, lips moving		Laughed at her
			Erased
	Looked at Arts paper		Hand up
	*Started to work		Made faces at girls
11 45	*Worked and watched		Laughed Watched D
	Made funny faces		Got help
	Giggled Looked at Lorne	11 50	Looked at Lorne
	and smiled		Tapped fingers on desk
	Borrowed Arts paper		*Wrote
	Erased		Slid down in desk
	Stacked paper		Hand to head, listened to
	*Read		Miss D helping Lorne
	Slid paper around		Blew breath out hard
	*Worked briefly		Fidgeted with paper
	*Picked up paper and read		Looked at other group
	Thumb in mouth,		Held chin
	watched Miss D		Watched Charles
11 48	*Worked and watched		*Read, hands holding head
	Made funny face		Erased
	Giggled Looked and		Watched other group,
	smiled at Lorne		chin on hand
	*Paper up, read		Made faces, yawned,
	Picked eye		fidgeted
	Studied bulletin board		Held head

Time	Activity	Time	Activity
	*Read, pointing to words		*Read
	Wrote		Rubbed eye
	Put head on arm on desk	11 55	*Wrote
	Held chin		

Note Starred items are those classified as study-oriented activity Accumulative stopwatch is clicked on at these times

Variables Measured (a) Type of molar activity, (b) total time in study oriented activity, (c) total time of observation

Expected Findings Some students waste the majority of their study time in extraneous activity The range of individual differences is very wide, with some pupils utilizing four or five times as much of their allotted study time in actually studying and accomplishing an equally greater amount of work than other pupils

LANGUAGE SKILLS

Closely reflecting cognitive processes yet important in its own right, is language ability Speaking, writing and listening patterns differ by age, sex, subculture, social class, and individual Oral and written language underlie success or lack of it, both in school and out of it, in this highly verbal culture

The language arts receive top priority in most school curricula Vocabulary study, spelling games, and grammar assignments have long plagued elementary school children whereas speech making composition and report writing have been faced traditionally by most secondary students Modern curricula practices include role playing, poetry reading puppets, letter writing, newspaper reporting, listening and language games word list building, and much spontaneous expression of opinions ideas, and reactions in open discussion The development and refinement of communication skills have become highly complex educational tasks of the first order

In the very complexity of learning language skills, much is often overlooked Children speak, write and listen without anyone realizing in any accurate sense, how well or how poorly they do so Gross assessment of their vocabulary, reading spelling and grammar abilities has usually represented the major thrust of any evaluative effort with such relatively refined but perhaps more important, daily communication skills as word production, paragraph construction, speech expressiveness, and thought articulation seldom being considered Yet, it is on these more subtle aspects of language development that the world makes its greatest demands.

The advent of the tape recorder in school classrooms makes assessment of these refined and hard to measure qualities much more possible than in earlier eras With this instrument, language can be frozen, as it is used in ordinary speaking situations, for later analysis Communication skills, heretofore unnoticed, can now be studied in careful detail The procedure is as simple as turning on the recorder when children are talking transcribing it into typescript form, and then coding and tallying these aspects of language usage one is interested in examining A few of the possibilities for studying oral language patterns are described briefly below

What differences exist among children and across sexes, ages, and social classes in daily language usage? What relationships are found between oral language habits and reading or writing proficiency? What aspects of oral language are readily affected by instructional emphases? How rich and varied is children's descriptive and expressive language? What kinds of phenomena are most vividly and accurately described? What effect do such curriculum practices as word list building have on the expressiveness of children's ordinary conversations?

> *First Illustrative Study (proposed study based in part on Loban, 1963)*
>
> *Problem* To discern the extent of differences in oral language patterns among a group of fifth grade pupils to determine the variability of these patterns for each pupil in varying types of situations
>
> *Procedure* Unobtrusively, at least 200 words are recorded from each pupil during each of several situations (a) free play and discussion during group activity on the playground (b) regular show and tell period, when the child is talking to the whole class and (c) in an adult interview with the child
>
> Typescripts are made and segmented by listening to the tapes and marking (a) *phonological units*, that is, utterances between pauses accompanied by a definite drop in pitch (or rise in pitch for inquiries) (b) *communication units*, groups of words 'which cannot be further divided without the loss of their essential meaning (c) *mazes* or series of words or initial parts of words that do not add up to meaningful or structural communication units (example When I was fixin ready to go home, my mother called me up in the house an [an an' have to] I have to get my hair combed' (Loban, 1963, p 9)) When a maze is removed from a communication unit, the remaining material always constitutes a clear, unambiguous communication unit Basic communication units are further classified in terms of nine basic structures of the English sentence, such as subject verb–inner object-object Communication units may be analyzed further in terms of individual pupil tendencies to use single words for subjects, objects or complements, and subordinate classes They may also be assessed in terms of their functions

Variables Measured (a) Length and frequency of phonological units, communication units, and mazes (b) uses of communication units (c) types of situations

Expected Findings Older children, middle-class and above-average-intelligence children utilize more extensive phonological and communication units than do younger children lower-class or below-average-intelligence pupils Some situational differences show up also

Second Illustrative Study (modification of a design used to compare the Language Usage of Mothers from Contrasting Social Strata, Hess and Shipman, 1968)

Problem To compare the language usage patterns of lower-class and middle-class children in a particular school in terms of restricted versus elaborated verbal codes

Procedure In an activity labeled 'Story Making Time,' primary-age pupils take turns making up and telling the class a story that they have made up about a picture they have drawn Stories are recorded, transcribed, coded, and summarized according to the following scales

Mean sentence length, average number of words per sentence

Adjective range, proportion of uncommon adjective types to total norms, expressed as a percentage

Adverb range, proportion of uncommon adverb types to total verbs adjectives, and adverbs, expressed as a percentage

Verb elaboration, average number of complex verb types per sentence

Complex verb preference, proportion of complex verb types to all verb types, simple and complex

Syntactic structure elaboration, average number of weighted complex syntactic structures per 100 words (complex syntactic structures include coordinate and subordinate clauses, unusual infinitive phrases, infinitive clauses, and participial phrases)

Stimulus utilization

Introduce content

Abstraction, proportion of abstract nouns, that is, when an object is thought of apart from the cases in which it is actually realized, and verbs (excluding repetitions) to total nouns and verbs (excluding repetitions) expressed as a percentage For example, in the sentence, "This dog is an *animal*," "animal is an abstract word, but it is not considered abstract in the sentence, "This animal is running away "

Children are classified as middle-class or lower-class on the basis of parental occupation or some other appropriate index of social status, and comparisons are made between the two groups on each of the above scales

Variables Measured (a) Social class of pupils (b) amount of verbal output during the telling of a story; (c) the complexity of oral language usage

Expected Findings Highly significant differences favoring middle-class children on each of the measures of complexity as well as on overall verbal production

Third Illustrative Study (hypothetical)

Problem To determine the thousand words most commonly used by the pupils in an urban elementary school, meanings attached to them, and whether or not significant differences occur in amount of usage in various settings

Procedure In each class, a battery-operated tape recorder is turned on for 5 minutes during each of the following situations playground during recess, playground during lunch or after school, physical education period, class discussion, and small-group project activity Unobtrusively and pref erably with a hidden microphone, an observer monitors and records at close hand at least 20 minutes of the youngsters' spontaneous, natural con versation for each of 5 days

From transcripts of these sessions, vocabulary used is listed and tallied by setting, grade-level, and part of speech Comparisons are made between settings and grade levels If setting differences are minimal, a combined master list is formulated by grade levels, with words arranged in descending order of usage

In each class, pupils are given written assignments to define and illustrate the most commonly used 20 words for that grade level "Meanings" are then coded and tallied for each of these words A final report should con sist of the lists of words by grade levels and the most frequently occurring definitions for the 20 most common words

Variables Measured (a) Oral vocabulary, (b) frequency of word usage, (c) grade level of user (d) "meanings" of most commonly used terms (e) type of setting in which terms were used

Expected Findings An extremely high amount of usage of a limited num ber of terms (especially if compared with a standardized word list), consid erable variation in meaning attributed to the most commonly used terms, little difference among grade levels in the most commonly used terms little difference among settings in terms used

Fourth Illustrative Study (hypothetical)

Problem To determine how fifth-grade children describe things, that is, what characteristics of phenomena they emphasize most, and whether di rectly experienced events or vicariously experienced events are described more completely

Procedure Tape recordings are made unobtrusively of children's play ground conversations and of their 'show and tell' reports Typescripts of these recordings are coded, tallied, and summated for individual children, for classes of children by age level and sex, and for various school-com munity populations The classification procedure consists of identifying each object, phenomenon, or event that is described classifying this type of thing

into objects, persons, directly experienced events stories on television radio, in books, magazines, or movies and subcategories of these major categories For each object, phenomenon, or event so identified, each distinct characteristic that is mentioned for descriptive purposes is coded and tallied (examples form, size, color, use) A separate listing is made of all adjectival adverbial expressions Descriptive statistics are derived from the preceding tabulations by dividing the total number of adjectival adverbial expressions made by the number of items being described A second statistic is obtained by dividing the total number of such expressions by the number of different expressions A special table is constructed showing the frequency of use of specific superlatives

Variables Measured (a) Type and frequency of described objects, phenomena, or events, (b) categories of descriptive characteristics (c) adjectival adverbial expressions used in descriptions (d) sentence length

Expected Findings (a) Wide individual differences in range and type of descriptive characteristics (b) a wider range of descriptive characteristics for personal events and stories than for objects and other phenomena not directly experienced

PERSONALITY AND MOTIVATIONAL FACTORS

Few statements of educational objectives do not stress affective dimensions of development at least as much as cognitive dimensions Many parents and educators consider them even more important The highly influential taxonomies of educational objectives produced by Bloom et al (1956), dealing with the cognitive domain, and Krathwohl et al (1964), dealing with the affective domain, are equally comprehensive

While the school is only one of the institutions contributing to the development of children's values and attitudes, tenacity and self-directedness, and anxieties and maladjustments, the same is true of cognitive development The school, as well as the home and various other institutions, must bear a fair share of the responsibility for both areas

A prime reason why educators must attend to the affective dimensions of school life is that much of what a child learns in school whether it is intended or not, is in this area Not only does the child learn facts, shape concepts, and perfect various cognitive skills, but he also learns to like or dislike certain activities subjects, and teachers He learns to be anxious or relaxed when performing on his own He learns ways of coping with those school experiences that confuse him perhaps by asking for help and becoming dependent on the teacher or classmates by getting mad and blaming others by giving up on the tasks that the school assigns him or by trying

even harder In brief, he learns particular forms of adjustment, which become as much a part of him as concepts and facts He also learns to feel better or worse about himself, adequate or inadequate, secure or uncertain

These affective learnings may, in fact, be more important than whatever academic content he masters They not only govern his overall motivation to learn, but they often also have an enduring influence on how he approaches life outside of school They help determine whether or not he becomes a scholar, a delinquent, or perhaps even a psychotic at some future time

Affective dimensions are important also because of their close relation ship with cognitive development Sarason et al (1960) reported a significant, though not particularly high (−0 20) negative correlation between children's test anxiety and their IQs High anxiety boys perform less well on problem solving tests than do low anxiety boys of comparable intelligence In a major longitudinal study of intelligence (Sontag et al , 1958) furthermore, rather substantial IQ changes between ages 6 and 10 were found associated with various personality factors Compared with those whose IQs decreased the most, those whose scores increased the greatest amount were rated at age 6 as more independent, competitive, and self-assured

While affective dimensions are difficult to assess and standardized self-report instruments often lack validity, behavioral manifestations of such dimensions represent promising data sources for the naturalistic researcher If, as with the case of Bob (Chapter 6), observers can systematically track the behaviors displayed in relatively free-choice situations, solid inferences can be derived with regard to underlying personality and motivational con structs In the next section, various small-scale, heuristic studies will be presented, illustrating how important affective dimensions of the child can be explored naturalistically

Tension Indications

How much variation in individuals and groups occurs in nervous mannerisms and other tension indicators under differing school conditions and assignments? What tension differences exist during oral reading versus silent reading situations, test versus nontest conditions, working by oneself versus participating in a group, self initiated versus teacher-demanded reci tation?

Illustrative Study (Henschkel, 1967)

Problem To determine the effects of two different types of motivating statements on first-grade children's emotional behavior and performance

Procedure A first grade class was divided into two matched groups on the basis of a reading readiness test Immediately prior to a previously an nounced class party, one group (A) was told separately that if its members

Personality and Motivational Factors

did well on some checkups (a vowel identification test and a color word test) they would be able to have as much popcorn as they wanted at a forthcoming class party. The other group (B) was told separately, that if they did poorly they would not be allowed to go to the party, and in addition would have to sit and watch the other children have their party.

Behavior Measured (a) Identification of vowels and color words (b) affect indicators during test taking

Findings (a) No significant differences in test performances (b) sharp differences in affective responses. See Table 7.2

TABLE 7.2   AFFECTIVE RESPONSES OF FIRST GRADE CHILDREN
AFTER DIFFERENTIAL TEST INSTRUCTIONS
(DATA IN NUMBER OF CHILDREN)

		Group A		Group B	
	Behavior Categories	VOWEL TEST	COLOR WORD TEST	VOWEL TEST	COLOR WORD TEST
1	Quietness	9	9	4	3
2	Biting finger nails	0	0	9	10
3	Pencil dropping	3	2	7	8
4	Frowns	1	2	1	0
5	Smiles	6	6	11	11
6	Is this right?	2	4	11	5
7	Flushed faces	0	0	6	6
8	Laughing	1	4	0	7
9	Following directions	8	9	8	6
10	Finishing test	11	11	9	6
11	Out of seat	3	3	10	8

SOURCE   Henschkel 1967 unpublished report

Achievement Motivation

To what extent is achievement motivation (as measured by projective test responses) related to various school behaviors indicative of a generalized trait such as production of achievement-oriented themes in English compositions, moderate goal setting in basketball foul shooting, expressed preference for school activities that provide immediate concrete feedback about how well pupils do and self initiated practice efforts to improve one's performance? What social class, age and sex differences exist with respect to achievement-oriented behavior? To what extent can achievement motivation tendencies be increased as a result of school experiences designed for that purpose?

Illustrative Study [8]

Problem To determine the effect of an eight-grade social studies unit designed to increase the need for achievement of lower-class pupils of low academic ability

Procedure Utilize the same teachers and schools and similar classes in experimental (E) and control (C) groups Both E and C groups are taught new curricula as compared with past teacher and pupil experience The control group curricula should be matched, assignment for assignment, with the experimental curricula, differences existing only in an emphasis on achievement motivation in the latter and some other theme for the former (examples boy girl relationships, friendship behavior)

The experimental unit is designed to teach pupils how to think, talk, and act like a person with high achievement motivation Literature to read is about high achievers Stories to write are to be about people who strive hard and accomplish something worthwhile A second curricular direction is moderate, realistic goal setting Games are utilized in class where pupils can set their own goals and measure their own results easily Observation of their own and classmates' behavior in goal setting is discussed in terms of why some persons refuse to lower goals or raise them moderately following failure or success in accomplishment Longer term school goals also are set, discussed and reset Much emphasis is placed on determining what one is good at and not so good at and what one wants to improve in

Behavior Measured (a) Achievement-oriented theme production (b) assignment completion and accuracy, (c) reality of goal setting (d) changes in academic achievement on standardized tests (e) school-oriented versus nonschool-oriented behavior in the classroom (f) reality of stated goals

Model Identification

With whom do pupils identify (1) among adults, (2) among peers, (3) from fiction? What qualities are especially admired? How do identifications change over the course of a school year? What impact do bibliotherapy and other curricular approaches have on pupil identifications? Which teachers serve as sources for identification for particular pupils, especially during junior and senior high school years?

Illustrative Study [9]

Problem To determine (a) persons identified with and (b) their traits that are especially admired by a class of fourth grade pupils

Procedure Records are kept of each pupil's spontaneous mention of

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[8] A hypothetical model based on McClelland's (1958) training programs for executives A preschool study, which could serve as a model for younger children was done by Sears and Levin (1957)

[9] A hypothetical model based in part on a substudy of achievers and under achievers in River City (Havighurst et al, 1962, pp 45–46, 55–56) Rather

persons who are admirable and the situations in which the data are obtained A series of assignments and class discussions are planned to elicit appropriate data For example, pupils can be asked to list the adults that are especially important to them, as a prelude to either writing a theme or giving an oral report on someone they know well A biography assignment can be included in a language unit with oral or written reports on outside biographical readings In addition to planned assignments and activities, observation of free play activities should be monitored for spontaneous expressions, indicating heroes being role-played (for example, Swing away, Mantle")

Behavior Measured (a) Names of people referred to as possessing admirable qualities, (b) statements of good and bad qualities in persons otherwise identified as important persons (c) spontaneous emissions of praise or blame on persons and the stated reasons for such feelings All taped discussions, themes, or other written expressions and anecdotal or checklist notes of free-play situations that were monitored are to be coded in terms of these behaviors Frequency lists based on expressed identifications should be constructed for each pupil, for the girls and boys as subgroups, and for the class as a whole

Self Identity

What features and attributes make up the core of pupils' self concept syndromes? Which aspects of self identification are consonant with school expectancies and which ones are incompatible? Which areas represent positive and which ones negative self identification? How much impact is actually achieved by a given unit of instruction schedule of assignments, or pattern of school activities that is designed with the specific purpose of enhancing self-concepts? How realistic are self ideals?

Illustrative Study (Morris 1966)[10]

Problem To discover whether or not first-grade black children are already sensitive about their racial identity

Procedure Pupils were asked to color outline figures of either a boy or a girl to make them look like themselves A wide assortment of crayons was available Children were prompted to look at their own clothes and to color clothes, shoes, and features (eyes nose and mouth were left out of the outline) They were not prompted on skin color However, if anything was left out, each child was asked if he had finished, before papers were

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striking differences showed up between these two groups, matched for ability, in the identification area Adults important to pupils tended to be favorably disposed toward education for achievers but less so for underachievers

[10] An unpublished student study Suggestions recommended for repeating this study include using a control group of white children or having black children color pictures of some white classmates

collected In order to determine whether or not all pupils could recognize color similarities and were able to do the assigned task, a control task was requested, consisting of copying a mimeographed outline of a box of crayons If the children colored the crayons on the box the same way as the model, they were considered to have passed this control test and to be able to color the human figure outline appropriately

Behavior Measured (a) Avoidance reaction to task, specifically to coloring skin with brown, black, or purple crayon, (b) response to white crayon in the assortment

Findings (a) Although only one face was colored, six of ten children colored some of their features correctly, (b) six of ten children showed pronounced avoidance reactions during the figure drawing, but none during the control task (c) four pupils reacted significantly to the white crayon during the experimental task, such as fingering it before picking up the brown crayon

School Activity Reactions

Does home training regarding neatness and cleanliness affect children's responses to "messy" tasks and activities outside the home? What social class differences exist among children in their enjoyment of various types of school activities? Are activities that run counter to home training (say, games that call for boisterous, outgoing, hyperactive behavior) responded to more hesitatingly by children from homes where such behavior is condemned than by those where it is condoned? What behavioral carry-over from the home to the school can be expected in terms of involvement in and enthusiasm for various types of activities?

Illustrative Study (Alper, Blane & Adams, 1955)

Problem To determine whether or not middle-class children (with presumed greater home-cleanliness training) would react differently than lower class children to finger painting—a task requiring the child to get dirty—by (a) being slow or refusing to engage in the task, (b) maintaining minimal contact with the materials, and (c) going to the bathroom more often to clean up

Procedure A total of 18 middle-class and 18 lower-class four year old children attending different nursery schools were taken one at a time to a small room to finger paint Attempts were made by the examiner to establish rapport, to create an informal, permissive atmosphere, and to demonstrate the use of both hands arms, and even elbows in finger painting Children were asked to paint anything they wanted and then to paint a picture of their family To maximize contact with the paints, the child was required to use his fingers to scoop paint from the supply jars

In a second study, a similar procedure was followed except that crayons were used rather than finger paints The two samples of children were comparable to those in the finger painting study

Behavior Measured Sixteen variables were measured including (a) time to begin painting or coloring after completion of instructions (b) use of whole hand versus fingertip approach and (c) washing-up behavior

Findings Significant differences were found between the two social class groups on most of the finger painting variables but on almost none of the crayon-drawing variables It was concluded that the middle-class children showed a lower tolerance for getting dirty, for staying dirty, and for the products they made while dirty Soiling and smearing behavior would seem to arouse more anxiety in middle-class than in lower-class children

Adherence to Rules

To what extent do various pupils violate or adhere to school mores and administrative regulations? Which rules tend to be followed and which ones violated? What relationship exists if any between pupil tendencies to adhere to school rules and nonconforming cognitive tendencies? To what extent are pupils consistent offenders of school rules and mores from one situation to another?

Illustrative Study (Close, 1967)

Problem To determine the frequency of rule infractions (when seemingly unobserved) under two conditions of rule adherence and to investigate possible sex and age differences in infraction behavior

Procedure A well publicized and frequently repeated school rule stated that no one was to walk on the gym floor in street shoes Students were sent to an empty gym one at a time to procure a clipboard that had been left near the center of the court From a darkened office in the gym an observer recorded whether or not they removed their shoes before going on the gym floor

With one pupil being sent by one or another of several PE teachers at the beginning and another at the end of each of six class periods for eight days prior to Christmas vacation along with a similar schedule after vacation a total of 96 students were involved as follows 48 girls and 48 boys, with an equal number of boys and girls from the eighth ninth, and tenth grades During Christmas vacation the gym floor received two coats of seal giving it a highly polished appearance

Variables Measured (a) Pupil infraction (removal or nonremoval of shoes) (b) infraction awareness behavior (looking around for presence of others) (c) sex and grade level of pupils

Major Findings (a) More pupils removed their shoes after the gym floor was polished than before (72 percent versus 58 percent) (b) younger pupils removed shoes more frequently than older pupils (eighth grade 84 percent ninth grade 58 percent tenth grade 54 percent) (c) girls removed their shoes more frequently than boys (72 percent versus 58 percent) (d) of the 40 pupils who did not remove their shoes before Christ-

mas, all but 7 hesitated and looked around to see if they were alone before walking on the floor After the floor had been polished, all 26 who had not removed their shoes, hesitated and looked around before walking on the floor

HEALTH AND PHYSICAL
DEVELOPMENT

In a fast-changing culture, the need to assess physical status becomes ever more important The quality and quantity of exercise from daily activities are strikingly different from those of only a generation ago Most likely, transportation patterns, home chores, and even recreational opportunities today require less gross motor activity and energy expenditure than ever before A presidential commission on physical fitness has been established to stimulate greater school and neighborhood effort to remedy under developed motor abilities and build up the endurance of modern youth A virtual revolution has occurred in eating habits and nutritional patterns, as premixed, prepackaged goods of all sorts have rather quickly replaced more traditional foods Recent reports have indicated that the most affluent society of all time has a sizable proportion of its adolescent population under nourished Many of these teen-agers do not come from poverty homes

With schools becoming larger and perhaps less intimate, the possibility of readily detecting sensory defects and other types of mild physical deficiencies in young children decreases unless formal screening programs or special observation procedures are established for such purposes Visual deficiencies sufficient to make school tasks ever more arduous are estimated to handicap 30 percent of all school children unless corrective measures are taken yet, in many instances, years slip by before they are detected A similar situation exists with respect to auditory processes

Finally, in this age of rapid cultural change, when new programs and procedures are constantly replacing old ones, man's continuing limitations seem insignificant Yet not everyone can develop the prowess of a Bart Starr, Arnold Palmer, or Willie Mays The body itself is a limiting factor underlying much of what a child can do at any particular time His stature, size, coordination, energy supply, and physical maturity all affect what he can and cannot do, both in the classroom and out Although the correlations are usually modest, positive relationships do seem to exist between physical development and academic behavior, if only through the medium of the child's overall sense of adequacy and self-esteem Unless a child lacks something that is readily correctable (for example, thyroxin for an under active thyroid condition), physical factors of the types enumerated above are

relatively immune to at least short term change and should be well recognized in shaping expectations for school behavior. Accurate systematic assessment is mandatory if the full realization of pupil potential is to be achieved

Physical Skills

How well coordinated are children in both gross and fine motor skills? What are the body skills and areas of greatest ability for poverty children in such favorite peer activities as baseball and football? How wide spread among players are the various skills required of star players such as pass catching and blocking in football? How effective are particular instructional programs and practice efforts in improving physical abilities?

Illustrative Study (H S Smith Jr, 1969)

Problem To determine the extent to which performance on a battery of selected psychomotor tasks is a function of physical maturational factors by examining a variety of relationships among task performance and chronological age, organismic age, sex, social class, race and practice effects

Procedure A preliminary group of tasks had been designed by Brandt (1966) for kindergarten teachers to use in the indirect assessment of physical maturation, one potential predictor variable of early school success. Together these tasks covered a wide range of gross and fine motor behavior. Administration instructions had been refined to the point where each task could be administered either to an entire group, as an ordinary class activity, or, very briefly (only a minute or two) to one child after another in a gamelike fashion. For example, cutting and coloring tasks were to be performed simultaneously on mimeographed handouts, whereas dribbling a volleyball and walking on a board were to be done sequentially by each child under carefully standardized, though gamelike, conditions. Objective scoring standards had been developed for counting the numbers of errors made in performance of each task. On the volleyball dribble task, errors consisted of such behaviors as losing the ball or going outside prescribed boundary lines before reaching the end of the path to be traversed. Templates were used to count the number of times children strayed substantially from boundary lines in cutting and coloring tasks

Tasks were administered to experimental and control groups of nursery and kindergarten children on a pre post basis over one, two, and three week periods. Experimental children were given intensive daily practice during this same period in an effort to improve performance. In addition, height, weight, and grip strength were measured converted to age equivalents and averaged to provide estimates of organismic age. Comparisons were made within same sex, race, and social class groups as well as on a total sample basis

Variables Measured (a) Performance scores on 13 tasks (b) organismic age, as estimated from height, weight, and grip strength values (c) chronological age

logical age, (d) sex, (e) race, (f) social class, as estimated from parental occupation (g) practice versus no assigned practice

Selected Findings (a) Performance stability, as determined by test retest contingency values, was at least 0 65 for ten of the tasks and well above this value in most cases (maximal C value possible was 0 91), (b) sex differences were insignificant, (c) within similar age, racial, and social class groups, organismic age values correlated significantly (above 0 45) with performance scores on 11 tasks, (d) a substantial relationship was found between performance and chronological age and, most importantly (e), *practice efforts produced no significant improvement for experimental over control groups on nine tasks*

Nutrition

What inadequacies in diet exist for classes of children? What relationship exists between nutritional deficits and hyper or hypo-activity at school?

Illustrative Study (Shreeman, 1967)

Problem To find out what types of foods children prefer for midmorn ing snacks, to discover how consistent their choices are, and to see how choices vary with age and sex

Procedure On each of 11 consecutive days, children were allowed to choose, for midmorning snack (10 00 A M), from one of three food trays On one tray were colored baking cups containing *fruit* The other two trays held similar cups containing *sweets* and *cereal*, respectively The schedule of food selection was as follows

Days	Fruit	Sweet	Cereal
1–3	Half an orange	Malted milk balls	Crispy Critters
4–6	Half an apple	Two chocolate chip cookies	Trix
7–8	Half a tangerine	Christmas designed sugar cookies	Two peanut butter crackers
9–11	Celery	Two peanut butter cookies	Fruit loops

Teachers recorded on a grid the daily choice of each student in terms of food type Data were later analyzed by grade level, sex, and individual child

Variables Measured (a) Type of food chosen for snack (b) frequency of choice over a ten-day period (c) grade level and sex of chooser

Findings (a) Only 14 of 51 children were reasonably consistent in their choices, selecting the same type of food at least two-thirds of the time This relatively consistent group, furthermore, was about evenly divided, with approximately a third selecting fruit, another third, sweet, and the other third, cereal

(b) Despite no significant sex differences, an increasing preference for sweets and a decreasing preference for cereal were found with increasing age as the following table shows

Percentage of Children Choosing

Grade	Fruit	Sweet	Cereal
K	32	25	43
2	33	38	29
5	28	46	26

PEER STATUS AND INFLUENCES

With the shifts from extended to nuclear family and rural to urban culture that have dominated the changing American way of life during the past half-century has come also a gradual increase in the influence of the peer group on developing personality Always important the peer group has come to be the predominant interpersonal influence of the urban and suburban adolescent surpassing in many instances both the school and the family Even during preadolescence and still earlier years this impact is vital in the shaping of personality

Although many adults would lessen this force if they could its impact is not all bad in preparing young people for modern life It provides perhaps the best training ground for practicing group problem solving for developing sensitivity to other persons thoughts and feelings and for learning to adjust ones own desires to those of others As Riesman (1950) and W H White Jr (1956) point out the other-directed organization man has replaced the rugged individualist of pioneer days even though nostalgia tends to keep the latter alive The peer group has had a major influence in bringing about this change in basic personality structure

It behooves those interested in human learning and development to assess the status accorded children by their classmates and friends and to study relationships between peer-group structure and functioning on the one hand and school performance and functioning on the other School dropout rates truancy and delinquency patterns can be explained only in terms of peer reference groups Whether the community be Elmtown River City or some as yet unstudied community pupil response to classroom assignments and participation in extracurricula activities can be understood only in considering the values and mores of the peer groups represented As Coleman's (1961) investigation of the values of adolescent culture indicates these values vary with the type and size of community and therefore need to be closely studied by school authorities in each community if their particular

patterns are to be clearly recognized and appreciated Naturalistic observation of peer functioning provides the best overall means of studying these everchanging, dynamic patterns

Peer Status

Who are the most popular children? Most rejected? Most isolated? Which children influence others? In what ways and how often? What roles are assigned by the peer group to particular individuals? Who are given the dirty, low-status tasks that no one else will assume? Who are the actual leaders, lieutenants, jesters, fringers, etc? How closely do sociometric correspond with observational data about peer group structure?

Illustrative Study (hypothetical)

Problem To discern evidence of peer status in being waited for by other children

Procedure When the bell rings or class is dismissed in some other fashion, children can be observed on a point-sampling basis to see if they were approached or waited for by a classmate or if they approached or waited for someone else Waiting should be for at least 30 seconds before being tallied as such At each break in the class schedule, three or four children may be observed in a prearranged sequence (probably by seating-chart arrangement) throughout the day and until at least ten such observations are made on each class member The following sample form illustrates the manner of recording data

Date 12/8

Situation	Child	Approaching	Waiting
	Sue M ←	Judy C, Mary F→	→Judy C Mary F
Recess	Sue M →	Delores B	→Delores B
	Bill G →	Mark B, Bill B	
	Jerry A ←	Andy P	
Lunch	Bob O →	Mark B, Jim D	→Mark B
	Pat S	None	
	Mary F→	Sue M	→Sue M

After a sufficient number of observations have been made to produce reasonably stable peer interaction patterns, a number of calculations are made to determine estimates of peer status for each child, including the following (a) total number of times approached by others (b) total number of times waited for by others (c) total number of different children who approached him (her) (d) ratios of times approached to times approaching others (e) difference of times approached and times approaching others In addition, interaction patterns with particular children should be analyzed for evidence of cliques and friendship patterns

Variables Measured (a) Frequency of being approached or waited for ←

(b) frequency of approaching or waiting for others → (c) situation (recess lunch etc) (d) preferences expressed on a sociometric questionnaire

Expected Findings Well-established friendship patterns and fairly stable differences among children in who is approached most regularly and who is not approached Although observation data will usually correlate with sociometric data many differences will also be found

Peer Conformity

To what extent are friends and members of the same peer groups alike in the manner in which they study tackle particular assignments and react generally to academic situations? What types of situations produce the greatest degree of peer nonconformity? Which youngsters tend to learn most and which least when allowed to work closely with their friends at school? In what ways are members of the same peer groups conforming and non conforming?

Illustrative Study (hypothetical)

Problem To determine which pupils are most influenced by their peers in the manner of doing school assignments and which pupils tend to do the influencing

Procedure Construct pairs of parallel assignments that can be given so that the first one of each pair is done in class without a chance to communicate with friends or classmates, and the second one is done as homework For each pair of assignments establish beforehand and without revealing to pupils certain specific criteria for determining the amount of similarity in assignment response In each instance the specific criteria used should vary from one pair of assignments to the next and should be different from instruction specifications stated to pupils when the assignments are made For example, if an assignment consists of writing a descriptive paragraph and the planned criteria for assessing similarity of response includes (a) number of words used and (b) type of object event or person described the teacher will have to answer any questions that are asked with regard to how long the paragraph should be or on what topic they should write with noncommittal responses (examples "as long as you think it needs to be—just one paragraph and "on whatever topic you choose")

Although almost any kind of assignment could be used best results for the purposes of the study should come from those that seem new to the class that is they have not already learned from previously given similar assignments either how their friends tend to respond or what the teacher really expects in relation to the scoring criteria

Prior to the onset and again at the end of the study period, a sociometric question should be asked in which pupils are asked to name "classmates or friends that they often check schoolwork with "

For purposes of the study, all scoring for response similar to according to the prearranged criteria specific to each assignment should be done

blindly, that is, not knowing whether the assignment was done in class or as homework, and without telling pupils about the study or this special scoring Work can be handed back with the usual grades and comments on it

For each pair of assignments, scores of individual students' papers done in class should be compared with those done as homework, to see if there is more or less departure from class norms and from responses of sociometrically indicated homework peers Similarity of response for each assignment with its parallel assignment should also be estimated for each pupil

Variables Measured (a) Opportunity to communicate with peers or classmates with regard to certain unspecified assignment conditions, (b) type of assignments, (c) type of response in terms of prearranged criteria specifically excluded from the assignment instructions (d) similarity of responses

Expected Findings Some pupils do their homework in about the same way they do classwork, whereas others shift significantly toward group and peer norms under homework conditions

Peer Reinforcement

In what ways do peers reinforce each other? For what behaviors and traits? What developmental changes occur in susceptibility to adult reinforcement as compared with those influenced by peer reinforcement? Which children provide the greatest amount of reinforcement to their peers?

Illustrative Study (Charlesworth and Hartup, 1967)

Problem To determine the nature and extent of preschool children's reinforcements of each other in nursery school situations, to investigate possible age, sex, and classroom differences in patterns of positive social behavior

Procedure Four nursery school classes (two three-year-old and two four year-old groups) were observed throughout a 5 week period Individual children were observed in random order for 3 minute periods and "a detailed running account was made of the child's behavior and the behavior of any child with whom he interacted"

Coding was done of the observation protocols, using the following categories

(a) Giving positive attention and approval attending, offering praise and approval, offering instrumental help, smiling and laughing, verbal help, informing another of a third person's needs, general conversation

(b) Giving affection and personal acceptance physical and verbal

(c) Submission passive acceptance, imitation, sharing, accepting another's idea for help, allowing another child to play, compromising, following an order or request with pleasure and cooperation

(d) Token giving giving tangible physical objects, such as toys or food, spontaneously

Reinforcements were also coded in terms of whether they were accepted rejected, or ignored The ratio of agreement between coding done by an observer and that performed by a naive coder was 0 77, in terms of the presence of social reinforcement without regard to category and 0 64 when the particular category of reinforcement was considered.

Variables (a) Amount of reinforcement (b) type of reinforcement (c) sex of reinforcing and reinforced children (d) age of children (e) class room (f) class activity

Major Findings Boys participated in more interactive play than girls giv ing more submissive reinforcement to their peers Older children reinforced significantly more children than did younger children Younger girls gave considerably less affection and personal acceptance than boys, as well as less overall reinforcement indicating they were generally less socially active than boys As might be suspected dramatic play activity accounted for a greater proportion of reinforcement than did other classroom pursuits (examples art, puzzles) The amount of reinforcement given was positively related to the amount received Approximately half the reinforcements were given in reaction to overtures from the recipients and the other half occurred spontaneously

CHAPTER 8

The School Environment

In this chapter, the spotlight is turned from the child to the environment that shapes him. In precise focus is the school, in order to complete the program of educational analysis started in Chapter 7. The school tends to reflect, of course, the values and cultural patterns of the community it serves.

Historians have long reported basic human differences among the peoples of the world. Intellectual superiority has been attributed to the early Greeks, for example, marketplace aggressiveness to the Jews, and sensuality to the French.

Only as anthropologists have uncovered the full extent of behavioral variability, through their studies of primitive cultures, have these differences been attributed to social rather than constitutional or biological factors. With the emergence of anthropology and sociology during the past century as distinct and respected disciplines has come an awareness of the importance of cultural patterns in the shaping of mankinds behavior.

Thus it is advantageous for one to study the precise nature of the socialization pressures that give rise to the varieties of human functioning found within modern community life. As a melting pot for the world's emigrants America—perhaps more than any other single nation—provides educational opportunity for youngsters from the South and North, the farm, the city and now suburbia, upper middle- and lower-class homes, the many national and cultural origins, Catholic, Protestant, Jewish and atheistic religious persuasions.

Is the opportunity really equal, the pedagogical fare truly the same for all? The evidence overwhelmingly suggests not. Despite the fact that a larger percentage of American youth are in school for a greater number of years than youth elsewhere, vast differences continue to exist in the quality of education across the country. Coleman et al (1966) and Conant (1959) especially, have documented well the charge that urban schools are usually far surpassed in teaching materials, supportive personnel and even school plant by their more affluent suburban counterparts. Hollingshead (1949) and Warner et al (1944) among others have shown that schools, which supposedly serve the entire community, are likely to favor pupils of middle-class orientation overwhelmingly in their assignment of honors and high status roles. The accomplishments of most schools are still modest in reaching the low income low IQ pupil who tends to drop out of school early and join the hard-core unemployment ranks. These school failures are so widely recognized that even industry has attempted to launch its own remedial educational programs.

The charge of partiality is not made to disparage the valiant efforts of the modern schoolmarm but rather to suggest the nature and complexity of the task still undone. The cultural backgrounds of students must be well understood, accepted and utilized in the daily program if there is to be progress in overall educational benefits. Teachers must broaden their own horizons by coming to know and appreciate the values and patterns of home life that their pupils have absorbed. Even if some of these values and patterns cannot be condoned at school, acceptance of youngsters themselves is necessary if they are to become responsive to what the school has to offer. Only if the part played by the home and neighborhood in shaping the youngster is known in rather precise detail can educators prepare realistic and captivating educational fare. Therefore the study of community and home socialization processes becomes an important endeavor.

Studies presented in the next section exemplify the kinds of home and community data that are directly accessible to teachers and school administrators. For more comprehensive analysis of community structure such references as Boek (1965) and Warren (1955) may be consulted.

COMMUNITY AND HOME CULTURE

Community Mores and Values

What variations exist in customs and standards from one community to the next or from one subcultural group to another? What underlying differences prevail in attitudes toward education, "getting ahead," "sticking together," neatness and orderliness, being open and honest in one's dealings with people, and a host of other specific behavior patterns? To what extent are home and school experiences and expectancies consonant?

Illustrative Study (Greene, 1966)

Problem To compare Christmas gifts received by middle-class boys and girls with those of lower class youngsters

Procedure An observer recorded the gifts described by pupils in an after Christmas sharing period in a classroom in each of two schools in the same city One school was located in a lower-class section of town and the other in a middle-class neighborhood

Variables Measured (a) Number of gifts per child, (b) type of gift (toys, games, pleasure reading material, academic reading matter), (c) complexity of toys

Findings (a) The average number of reported gifts per child was more than three times as great in the middle-class school (6 4 versus 1 7)

(b) Each pupil in the middle-class school reported receiving three or more gifts, whereas 19 percent of the children in the other school indicated that they did not receive any Christmas presents

(c) In the lower-class school, games constituted 10 percent, books a mere 3 percent, and toys the remaining 87 percent of all gifts received, whereas comparable percentages in the middle-class school were 36 (games), 24 (books), and 40 (toys)

(d) For the middle-class children, toys tended to be more complex (electric racing-car set versus truck) and games more education-oriented (arithmetic versus checkers)

(e) For the middle-class pupils, books were evenly divided between pleasure (adventure stories) and academic (skill builder, dictionary) content

Adult Models

Who are the significant adults in youngsters' lives? What patterns of behavior and assortment of attitudes do adults represent with respect to education, career opportunities, and dozens of other pertinent topics? What exposure do youngsters have to adult models representative of various points of view? To what extent do school materials reflect the virtues, vices, and general behavior modes of real adults with whom pupils identify? To what

extent do teachers present models to pupils which are compatible with emerging personality tendencies?

Illustrative Study (hypothetical study of Perceived Role Differentiation for Language Arts Class)

Problem To determine the extent of perceived role differences for mothers and fathers

Procedure Theme or paragraph writing assignments are made without prior announcement during a class period in order to survey independent ideas on a sequence of topics Things Fathers Do, "What Mothers Are Like,' 'Who Decides Things in Our Family Ideas from all themes are coded, made into a single list, and returned to classes in the form of a simple rating sheet on which pupils are to indicate the extent to which mothers and fathers do particular things (examples "deciding what family is going to do on vacations or during holidays" taking care of housework—cleaning picking up washing dishes) Following completion of this rating sheet, an additional writing assignment is made on the topic "How Mothers and Fathers are Most Alike and Most Different"

Variables Measured (a) Frequency of mention of various qualities and behaviors in first themes (b) amount of the perceived role discrepancy for each of the various behaviors as indicated by how mothers and fathers are rated by pupils (c) frequency of mention of various qualities and behaviors in the second set of themes

Community Institutions

Which are the powerful institutions in a community and how do they exert influence? What interests do they serve? What values and traditions do they support? How adequately do they meet the social, recreational, religious, and economic needs of the entire community? What proportion of the total community population is involved in their activities? What is the nature of the organizational structure and how effective is it?

Illustrative Study (hypothetical)

Problem To determine the extent of participation of the youth population of a given age group in the formally organized community institutions designed to attract them

Procedure A complete list should be made of all organizations purported to sponsor regular programs of activities for preadolescent boys and girls In compiling this list of activities churches, schools and adult service organizations should be contacted for the names of youth activities they sponsor and of adult leaders who are in the best position to assess the extent of youngsters' participation For example, cub scout den mothers should be listed, not merely the overall pack leader and actual 4 H Club leaders rather than county extension agents A master list of all fifth and sixth grade

boys should also be compiled from school records From the adult leaders of the various organizations, the names of all youngsters who participate should then be requested, plus estimates of the proportion of time of attendance (*more or less than half the meetings and organizational events*) and leadership position (*regular leadership position, informal leadership, or one of the group*) as well as a clear detailing of the specific nature of the activities and their frequency of occurrence

For cross validation purposes, schools should have all pupils in these grades fill out a simple form that lists all the organizational programs of the community, checking those they attend *regularly* and *sometimes* indicating any positions they hold, and estimating the number of hours a week they participate

When discrepancies occur between reports of adult leaders and those of the students, the adult leaders should be contacted a second time and asked if they know the pupils who have indicated some degree of participation and what has been the extent of this participation

Variables Measured (a) The numbers and percentages of pupils participating (sometimes, regularly) in 0, 1, 2, 3, 4, etc , institutional youth programs (b) the numbers and percentages of pupils holding leadership positions (both types) in 0, 1, 2, 3, 4, etc , institutional youth programs

Behavior Settings

What effects do situational variables have on behavior patterns? To what extent do the size of communities or institutions, the age and type of physical plants and equipment, the nature of activities, and other rather permanent dimensions of behavior settings shape behavior and development? Are certain kinds of settings particularly conducive to hyperactivity, question asking relaxation, or other behavioral tendencies? What are the most important setting variables location, number of people, size and shape, leadership style or what? Where, within institutional life, are certain behaviors most likely to occur? An example would be adolescents talking out their personal problems with adults In one study, the concession stand of the community bowling center far surpassed the school counselor's office, the homeroom teacher's room, and even the home itself in this respect

First Illustrative Study (*digested from Barker and Gump, 1964*)

Problem To determine the effects of school size on student participation in interschool events and extracurricular activities

Procedure In accordance with directions reported by Barker and Wright (1955, pp 491–495), a complete list for each of several schools was developed for all distinct behavior settings occurring during a particular school year Class schedules, school papers and yearbooks, written directions for students and actual observations of events represented the sources for compiling these master lists Examples of types of behavior settings *athletic*

events, recognition programs, open spaces, and fund drives Within these types, specific events or settings were identified, such as basketball practice, boys, awards assembly, football field, and senior class candy sale

Records were made of the number of students involved in each behavior setting, and ratings were made of such factors as student responsibility for control of the setting and performance level of students Students were also given questionnaires to fill out, indicating their feelings about various behavior settings at school

Variables Measured (included in Procedure)

Selected Findings Comparison of the large city high school (2287 students) with four small town high schools (83 to 151 students) showed the former to have on the average of 20 times as many students but only 5 times as many settings and 1 4 times as many varieties of behavior settings" (Barker and Gump 1964, p 195) The proportion of students who participated in district music festivals and dramatic, journalistic, and student government competitions was 3 to 20 times as great in the various small schools studied as in the large school Junior class students from small schools reported more satisfaction related to developing competence, being challenged, and being engaged in important activities those from large schools stressed more vicarious enjoyment large entity affiliation and learning about their school s persons and affairs Comparisons also indicated that formal educational behavior settings made up about the same proportion (20 percent) of total school behavior settings regardless of school size, although the variety of subject matter classes was smaller in the small schools

Second Illustrative Study *(Raush, 1959, Raush, et al , 1959)*

Problem To compare the interpersonal behavior of a small institutional group of hyperaggressive boys in six different settings and at two different periods during a residential treatment program

Procedure Six different situations were selected for observation of behavior, at various times of day and for types of activities Each of six children was observed, one at a time, in each of these settings early and late in the treatment period Immediately after the observation (averaging 8 minutes in length), the observer left the setting and dictated an objective anecdotal description of the child's interactions and behaviors

Two coders working together coded tapes or typed protocols 1ne for line Each interaction was coded in terms of the person behaving (specific child or adult), the interpersonal quality or intensity of the behavior, and the person toward whom the behavior was directed (coding system developed by Freedman et al , 1951, and Leary, 1957)

Variables Measured (a) Setting category (b) age status of person interacting (adult or child) (c) frequency of interactions (d) quality of interacting (hostile-friendly, dominant-submissive, etc)

Findings Various behavior differences were found among situations Breakfasts yielded fewer hostile peer interactions than did other meals.

Eating situations generally produced considerably fewer hostile interactions than did nonfood settings such as structured games, unstructured group activities, and arts and crafts activities. Structured play-group activities (games) led to more hostile interactions than did activities in which participants were less bound by rules, less involved in winning and losing, and generally more open to participation in diverse ways. Considerable behavior variation was found among the same six boys in the same setting.

Compared with observations made during an early phase of residential treatment, those made 18 months later in the same settings showed less hostile-dominant and more passive-friendly and other behavior, which was consistent with treatment aims. The amount of aggression received from other boys, furthermore, was found to be approximately equal to that they themselves expressed. From adults, as might be expected of good therapists, they received considerably less aggression.

TEACHING STYLE
AND EXPECTANCIES

It has long been held that (1) teaching is primarily an art rather than a science and (2) the great teacher is mysteriously endowed with inspirational talent that can be neither fully dissected nor readily developed. Until recently, furthermore, the complexity of the classroom has defied substantial investigation by behavioral scientists.

Within the past decade, however, a veritable deluge of investigative activity within school classrooms has brought these notions under attack. That which defied investigation previously is now being studied systematically and painstakingly with scientific rigor. Interactionists, hard headed reinforcement theorists, cognitively oriented, modern gestaltists, and anthropologically trained social psychologists—all have been using school classrooms as laboratories for examining ongoing group and individual behavior.

Procedural breakthroughs have been made in how to study the "art of teaching." From the efforts of investigators like Hughes and associates (1959), Ryans (1960), Flanders (1970), Jackson (1968), and Bellack (1966), a much more precise picture of what teachers actually do has been drawn. Many of these investigative procedures, furthermore, can be used by others, as the full range of teaching behavior in various settings has only begun to be explored. This literature has become so extensive that only a sampling can be presented here.

As far as the child is concerned, the curriculum consists of the activities he participates in, not the teacher's lesson plan or the instructor's manual. It consists also of what the teacher expects and permits, reinforces, and condones. It is highly personal and individual, furthermore, as teacher expectancies vary from one child to another. Even similar teacher expectancies

produce a differential impact on pupils demanding from one child a bare minimum of effort while presenting to another an insurmountable obstacle to classroom success It is to the analysis of these curricular subtleties that the next section is devoted

Teacher Questions

What kinds of questions are asked (a) closed structure with only one right answer that calls for pupils to remember what they have read or been told or (b) an open structure that requires reasoning from their experiences and permits several right answers? What taxonomy of mental processes is tapped by the questions teachers ask? How many children respond to teacher questions in an hour of instruction? What is each child's ratio of correct to incorrect responses to teacher questions?

Illustrative Study (hypothetical)

Problem To determine the extent of discrepancies (a) between stated goals of teachers and actual teaching behavior, as reflected in the questions they ask children and (b) between their feelings of accomplishment and their actual teaching behaviors

Procedure Interview teachers about their plans and educational objectives in teaching particular lessons Classify their statements according to a taxonomic system (for example Bloom 1956) Tape-record the lessons and independently classify each teacher question according to the same taxonomy Make a chi square analysis of the frequencies of stated objectives of various sorts versus questions actually asked during the lessons Post interviews are held after each lesson to obtain teachers feelings about how well they accomplished their objectives

For both sets of interviews, a schedule of questions is followed which draws out the teachers ideas about the lessons in considerable detail in order to have a sufficient number of distinct statements of purpose and reaction to permit proportionate comparisons to actual teaching behavior Sample questions include (Preinterview) "What do you intend to do tomorrow during social studies period? Why? Are there particular pupils that need this? In what way? (Post interview) "How well do you think you accomplished what you were after? What makes you think so? Which pupils responded best? What do you think they learned?"

Variables Measured (a) Nature and frequency of stated educational objectives (b) nature and extent of questions asked (c) nature and extent of feelings of teaching accomplishment

Teacher Evaluation Criteria

What types of comments do teachers write on pupil compositions, reports or other assignments? What proportion of teacher comments on marks on student papers are positive, negative, generalized and specific?

Illustrative Study (hypothetical)

Problem To discover the consistency of teacher remarks and evaluative symbols about the quality of student compositions To determine how consistently the teacher stresses the same qualities throughout his class on an assignment, as well as for the same children from one assignment to the next

Procedure After being graded by the teacher and without the teacher's knowledge of what is to be done, an independent judge categorizes each evaluative indication on three bases (a) the general characteristic in question (style, content, word usage, grammar, spelling, neatness, or other), (b) the specific quality mentioned (empirical lists need to be derived from all student papers of specific writing style, content, word usage, and format suggestions as well as types of grammar and spelling mistakes), and (c) affective quality (mistake or negative feature identified versus positive commendation) Once complete lists of specific qualities have been derived from two sets of graded papers from the same class, a master table or chart can be developed to show the number of comments of each type for each child for both occasions (see Figure 8 1) Chi square tests can readily be made as necessary from such a master table

An example appears in Figure 8 2 (p 334) of a fifth grade pupil's story as it was turned back to him by his teacher after being graded Teacher comments and evaluative symbols can be classified as follows

1 First tell us who Mr Fifth is   (a) content, (b) suggests starting idea, (c) negative
2 , A   (a) grammar, (b) new sentence starts with capital letter, (c) negative
3 There are too many different ideas in one sentence   (a) style, (b) sentence has too many ideas, (c) negative
4 'Smoth   (a) spelling, (b) double vowel sound, (c) negative

Variables Measured (a) General nature of criteria used in evaluation (b) specific features of evaluations (c) affective emphasis of teacher evaluations (d) total numbers of comments or evaluative notations

Expected Findings Considerable variation from teacher to teacher and child to child on all variables, with some teachers stressing mechanical qualities (grammar, spelling etc) to a far greater extent than content and style, for example, and other teachers emphasizing the reverse Most teachers are likely to stress what is wrong rather than right in their notations (see affectivity counts in Figure 8 1)

Test and Assignment Taxonomy

What cognitive attributes are required to complete tests and assignments successfully? Do they represent a full range of instructional objectives or are they relatively limited and repetitive from day to day and class to class? To what extent do they require pupil behavior or performance levels that are already within the repertoire of pupil competencies and

Figure 8.1

Type of Comment	ADAMS 1	ADAMS 2	BROWN 1	BROWN 2	CASS 1	CASS 2	DODGE 1	DODGE 2	FISHER 1	FISHER 2	GEIGER 1	GEIGER 2	HAHN 1	HAHN 2
Feature Evaluated														
Content	2	1	3	1	1	—	3	1	0	0	2	1	0	0
Style	1	—	1	—	1	—	0	0	0	0	—	—	0	0
Word usage	—	2	2	4	2	—	0	0	0	1	1	—	3	3
Grammar	1	—	4	—	—	—	3	2	—	3	2	—	2	2
Spelling	2	—	2	1	—	1	0	2	2	1	—	2	1	—
Neatness	0	0	—	0	0	—	0	1	0	1	0	1	0	—
Other	—	1	—	0	1	—	1	2	1	—	1	—	0	1
Specific Quality														
A Too many ideas	1	—	2	—	—	—	—	—	—	—	—	—	—	—
B More descriptives	0	0	—	0	0	0	0	0	0	0	1	—	0	0
C Erasures not clean	1	—	—	1	2	—	0	0	2	—	—	1	1	—
D Describe event	—	1	0	—	0	1	2	—	0	—	0	—	—	0
Affectivity														
Positive	1	0	1	1	0	0	1	0	0	4	1	1	0	1
Negative	5	4	10	7	4	3	6	5	5	4	4	4	7	7
Total Evaluations	6	4	11	8	4	3	7	5	5	4	5	5	7	8

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Mr. Fifth

Mr. Fifth has no legs because he has a
very bad disease called thwickets. There
is a rough brown and red hat on his head.
Green and white feathers are on his hat.
His hair is really long white and stringy
like a mop. His hair sheds alot even though
I don't know why. On his face there are big
bushy eyebrows. His face has small round
eyes, rosy red cheeks, and a awfully big
nose. His lips are dark red. Also he has a
pretty hard chin. There is a short neck on
him, and he has a green velvety shirt on.
His medal is red with blue lines and gold
embroidery, and smoth black shoes.

*There are too
many different
ideas in one sentence.*

FIGURE 8 2   STUDENT COMPOSITION CONTAINING TEACHER EVALUATIVE COM-
MENTS

therefore represent only review and further demonstration of prior learning,
and to what extent do they stress new learning?

   Illustrative Study (hypothetical, based on Guilford, 1959).
   Problem To determine how much instructional emphasis is really placed
on various intellectual and nonintellectual qualities by analyzing class
assignments and directions given for their accomplishment.
   Procedure A record is kept of all class assignments in a course over a
specified period In addition, an observer visits the classroom for the pur
pose of recording oral directions and specifications stated by the teacher
for accomplishing various assignments Assignments, included problems,
parts of assignments, and oral directions are classified later according to
Guilford's model for the structure of the intellect Frequency counts are
made and converted to percentiles

Variables Measured (a) For each assignment, the number and type of intellectual and nonintellectual attributes receiving stress in the oral or written instructional directions, (b) the kind of product, operation, and content of each distinct problem or part of an assignment (c) the frequency of occurrence of the various kinds of products, operations, and contents

Class Rules and Regulations

Around what system of rules, customs, taboos, and traditions is the class organized? To what extent and under what conditions do pupils need permission to get a drink, leave the classroom, leave their seat, talk to others, speak out during class, and perform in other particular ways of their own choosing? What routines have been established in classrooms for check ing absences, taking lunch count, and handling other organizational matters that frequently arise? How consistently are routines followed and enforced? How efficiently does the system of rules and classroom procedures work, that is, proportion of overall period spent in administering it and the extent of order and industry in contrast to chaos and wasted time? How severely and equitably are infractions enforced and privileges extended to different members of a classroom group, that is, are some pupils "picked on" and others "overlooked"?

Illustrative Study (hypothetical)

Problem To determine the consistency with which rules are enforced or overlooked among the pupils of a given classroom

Procedure An observer spends at least two half-days in the classroom listing specific requirements of the teacher with respect to classroom man agement Requests for permission are categorized as to type of request (for example, sharpen pencil), and the particular expected routine is de scribed as it is observed, such as a pupil's raising his hand until teacher acknowledges Conduct that violates routines and teacher expectancies, to the point where verbal or nonverbal reaction from the teacher occurs, is also categorized and included in the list if it has not already been itemized The list developed should be comprehensive enough to include all per sonal conduct in contrast to academic performance For example, being late to class or late in turning in an assignment should be included if the teacher indicates expectancies of any kind with respect to these situations or any expected routine for handling them There is no need to tally behavior frequencies during the initial observation When continued observation fails to indicate new types of behavior or situations that have not already been observed, it can be assumed that the list of routines and regulations for a particular classroom is moderately complete

The second period of observation is done with a clipboard and an alpha betical class list arranged so that tallies can be made readily to indicate adherence to a regulation, type of offense, the offender, and the nature of teacher retribution (overlook, nonverbal, public verbal, reprimand private

verbal) Schedules are to be established, without teacher knowledge, for observing the occurrence of particular types of infractions Some types occur frequently enough (such as talking to others during study period) that all observation must be done on only a limited section of the class at a time in order to tally each occurrence of what has previously been listed as a classroom taboo and to check also the nature of its enforcement For other types of situations such as coming to class late or leaving seat to sharpen pencils occurrence is most likely sufficiently infrequent to permit observation of the whole class and of several types of behavior simultaneously

Variables Measured (a) The frequency of occurrence per unit of time of each type of behavior that during initial observation periods was found to be part of the classroom system of rules and expected behaviors, (b) the frequency of individual infractions of various types and (c) the nature and extent of teacher reinforcement

Expected Findings (a) Idiosyncratic patterns of classroom routine from one class to the next in terms of what is expected and how consistently it is reinforced (b) considerable individual differences among children in adherence to rules and regulations (c) considerable differences in type and frequency of teacher reinforcement of particular pupils (d) boys receiving more severe and frequent negative reinforcement than girls and (e) the most frequently occurring infractions being the least consistently reinforced

Class Activities and Expected Participation

What is the nature of activities that make up the school day? How are pupils supposed to participate in various activities? What are the sequence and duration of cognitive process demands throughout the day? What percentage of the time are pupils expected to be utilizing particular cognitive processes or performing specific kinds of tasks? How well are stated curricular purposes actually reflected in what pupils are expected to do?[1]

Illustrative Study [2]

Problem To record and analyze major class activities in terms of (a) probable expected learnings and (b) kinds of expected or condoned participation and previously stated instructional objectives

Procedure An observer records in concise descriptive language the nature of each *molar* class activity and of expected student behaviors The time is entered at the beginning and end of each activity

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[1] An extensive analysis of a third-grade classroom focusing on several of the questions in this paragraph, was conducted by Gump (1969) Specimen record data were used, and procedures for analyzing segments of class activity were described

[2] A design followed in a number of student projects The idea for this design was suggested in Chapter 2 of Cronbach (1962)

If the first 4 minutes of a class period is spent taking roll and making announcements this fact is listed along with a brief statement of expected behavior listening and adhering to announcements If the teacher then asks what questions there are with respect to a previously assigned term paper, and in the next 12 minutes four or five pupils ask and receive answers to questions regarding style and procedure this period might be listed as students request assignment information regarding term paper writing and the major behavioral expectancy as do a term paper according to the teacher's specifications The major specifications made by the teacher should also be listed If the teacher then shifts to a literature topic for the next 6 minutes discussing the death theme in Bryant's poem *Thanatopsis* and for the following 10 minutes has students cite examples of other literature they know containing death themes but does not chastise pupils for inserting some ideas about the additional topic of sex these periods could be itemized as lecture on death theme from poem *Thanatopsis* and "class discussion of death theme Expected behavior could be listed as "interpret the *Thanatopsis* death theme as the teacher does relate the treatment of a theme in one piece of literature to that in others, and other topics or ideas than the nominal one may be introduced during class discussions."

Descriptive recording is continued in this manner covering each of the main instructional activities throughout class periods and perhaps even entire school days Minor disruptions to an activity such as send in Mary to the office, should not be recorded nor should the general behavioral expectancies of paying attention not interrupting someone who is talking, "volunteering a question or response to one or other expectations common to almost all class situations Expectations should be stated in terms of what pupils actually are supposed to be able to do as a result of taking part in the activity and what they are supposed to be gaining from it

Variables Measured (a) The type frequency and duration of specific but major instructional and noninstructional class activities and (b) the type frequency and duration of various learning and behavioral expectancies

Expected Findings A taxonomy of school activities and expectancies would be developed based on what goes on in school classrooms hour by hour Comparisons could be made with stated curriculum objectives and re-evaluation measures The taxonomy could serve as a guide for more refined studies of class activity in which the participation of individual pupils would be followed Studies could follow this one designed to find out how much of the time pupils are doing things they already know well

Reinforcement by the Teacher

In what ways are pupils reinforced during regular classroom activity by the teacher? By classmates? What behaviors are praised most frequently? What behaviors bring forth the most vehement condemnation?

Which children are reinforced the most and which ones the least? What are the most effective reinforcers for different pupils? What is the ratio of positive to negative reinforcement used by various teachers?

First Illustrative Study (Huggett, 1966)

Problem To determine how a particular teacher in charge of a lunch period maintains control of a relatively large group of junior high school pupils

Procedure An observer should note each instance of teacher reinforcement by listing the behavior to which she attends, how many children of each sex are involved, the manner of reinforcement, and subsequent pupil response For example, one such lunch period was summarized as follows

1 On five occasions, the teacher walked away from quiet groups to noisy tables Her presence resulted in the noisy group becoming quiet she did not say anything to either group

2 Six times, the teacher touched the shoulder of a boy or girl who was talking or laughing too loudly Five of these children responded to the teacher's gesture The sixth boy continued to talk loudly, almost shouting She spoke into his ear with no results and finally sent him back to his classroom The entire group was unusually quiet for about 3 minutes after the boy left the room

3 The teacher smiled at a group of girls who were discussing a science project She talked with these girls for about 1 minute (still smiling) These girls were well behaved through the whole period

4 The teacher frowned and walked quickly to two boys who were hand wrestling The boys stopped as the teacher approached

5 The teacher frowned and shook her head on four occasions Three students were walking too fast, but slowed down when the teacher nodded One student was tearing up his milk carton and put it in the trash can when he noticed the teacher

After gathering data in anecdotal fashion as above for a few periods, a checklist should be developed for recording teacher control patterns more systematically and quantitatively

Variables Measured (a) Pupil behavior attended to by teacher; (b) number of children involved (c) manner of reinforcement (that is, specific types of positive and negative reinforcement), and (d) type of subsequent pupil response, including whether or not the reinforced behavior stopped momentarily, permanently (some arbitrary period, say, 5 minutes), or not at all

Expected Findings A teacher uses a variety of techniques for maintaining control Some are more effective than others

A program of follow up studies of different teachers, groups of students, and school situations could prove highly illuminating to a school faculty that was concerned about school discipline and pupil control

Second Illustrative Study (hypothetical study based in part on Thompson and Hunnicut, 1944)

Problem To determine whether teacher expectancies and reinforcement patterns are the same or different for boys than for girls, for lower-class than for middle-class pupils

Procedure (a) An observer develops empirically a list of what teachers ask children to do and what behaviors they single out for praise and blame Observation is continued until the frequency of new categories of statements of teacher expectation, praise, or condemnation becomes less than 5 percent of total expectancy statements (b) On an alphabetized class list the observer places tally marks in appropriate places for each instance of teacher request or for each praiseworthy or condemnatory statement that is made to an individual pupil When the teacher statements are made specifically to one, two, or perhaps even three pupils, rather than to a whole group of children, so that individuals are targeted, each child is tallied Group requests, condemnations, or praises are not recorded Observations are conducted for at least 5 hours on a time-sampling basis (c) Children should be classified independently by sex and social class utilizing such yardsticks as educational level of parents and occupational status (d) Summary data by sex and social class are calculated for studying each of the three types of teacher behavior and tests of significance performed

Variables Measured (a) Frequencies and types of teacher requests, behavior praised, and behavior condemned of individual pupils (b) social class and sex of pupils

Expected Findings Sex and social class differences will be noted in both frequencies and types of teacher request and reinforcement Girls and middle-class pupils will tend to receive more positive reinforcement than boys and lower-class pupils Considerable individual variation among pupils will occur within a classroom in the amount, as well as in the kind, of teacher requests and reinforcement

Third Illustrative Study (Page, 1958)

Problem To improve pupil performance by systematically controlling the kind of teacher evaluative comments put on their test papers

Procedure After their papers were scored and graded in the usual manner, students were matched for performance and their papers were assigned to one of three treatment groups For one group no comments other than grade were put on their papers For another group, similar specified comments, thought to be encouraging and designed for the grade received were written on their papers in addition to the grade itself (example for B, Good work Keep at it) For the third group, free written comments that represented the spontaneous expression of the teacher's feelings supplemented the grade before papers were returned Subsequent objective tests were scored for indications of improved performance

Variables Measured (a) Type of written teacher comment (b) perform

ance on the first objective test, (c) performance on subsequent objective test (d) schools and (e) class or grade level

Findings Pupils who received free or specified comments on their tests achieved significantly better (< 01) on the next tests than pupils receiving no comments No significant between-school differences and no significant age-group differences (seventh through twelfth grade levels) were found in comment effect Although teachers believed that better students were also more responsive to teacher comments than were poorer students, there was no experimental confirmation of this belief

Classroom Interaction

To what teaching styles are pupils exposed? In what manner does the teacher conduct instruction? What is the quality of the social and emotional classroom climate? How much of the teacher's behavior is instruction centered? How is content presented? To what extent do pupils, as well as teachers, talk and what is the nature of that talk?

Illustrative Study [3]

Problem To compare the verbal behavior patterns present in the classrooms of superior rated and less superior rated physics teachers

Procedure (a) With rating scales designed for the purpose, each of 30 physics teachers from a large metropolitan area was evaluated by three different sources his principal, one class of students, and himself The five highest and five lowest ranked teachers were chosen for 6 hours of direct classroom observation A trained observer classified and tallied ongoing behavior every 3 seconds in the manner suggested by Flanders (1960, 1965), (see Chapter 4) Before gathering the basic classroom data for the study, the researcher checked his observation reliability against tape recorded classroom sessions The classroom observer did not know the ranking of the physics teachers, as their selection had been accomplished independently by others, to minimize observer bias

Variables Measured and Computed (a) Type of ongoing classroom verbal behavior (b) frequency of each type (c) sequence of category types on an every 3-second basis (d) ratio of indirect to direct teaching influence (categories 1, 2, 3, 4, 5, categories 6, 7, 8, 9), (e) other combinations of the 16 categories as reflected in Figure 8 3

Results Based on over 40,000 total tallies, the percentages of each of the 16 categories of classroom behavior were compared for the two groups of teachers in Figure 8 3 Because of the small number of teachers in each sample, significant t value differences (< 05) were found only for cate-

[3] Roger Pankratz in Amidon and Hough (1967) Outlines of various interaction systems, including the Flanders' studies appear in the Amidon and Hough book as well as in Gordon (1966)
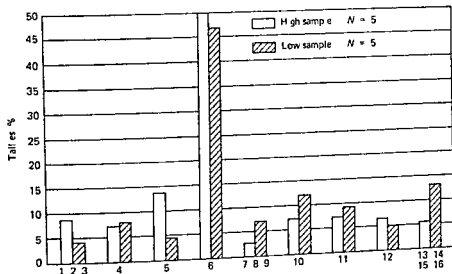
FIGURE 8 3 VERBAL INTERACTION PATTERNS IN CLASSROOMS OF SELECTED
PHYSICS TEACHERS CATEGORIES

(1) Affective clarification and
    acceptance
(2) Praise and reward
(3) Cognitive and skill clarification
    and acceptance
(4) Teacher questions
(5) Teachers' response to questions
(6) Lecture
(7) Corrective feedback

(8) Requests and commands
(9) Criticism and rejection
(10) Student-elicited response
(11) Student-emitted response
(12) Student questions
(13) Directed activity
(14) Contemplation
(15) Teacher demonstration
(16) Nonfunctional behavior

(Pankratz, 1967, p 196)

gories 2 3, 8, 9, and 16 High ranked teachers used more praise and reward
and more cognitive and skill clarification and acceptance than did low
ranked teachers High ranked teachers also made fewer requests and com
mands, exemplified less criticism and rejection, and stimulated less confusion
and irrelevant behavior In addition, high ranked teachers used indirect
teacher influence (categories 1, 2, 3) more than three times as much as
direct teacher influence (categories 7, 8, and 9) The high ranked teachers
devoted a greater amount of time to answering student questions and made
more sustained use of student ideas The type rather than the amount of
teacher questioning was different Finally, both groups of physics teachers
devoted about half of their time to providing instruction by means of
lecture, a greater amount than previous studies employing similar tech
niques had reported for social studies or mathematics teachers

CONTENT ANALYSIS

Not only teaching methodology but also instructional material and curriculum content have been placed under the behavioral scientist's microscope Bruner's (1963) contention that any discipline can be taught in some respectable form at any particular age, the partially confirmed charge that schools are feminine and middle-class oriented to the detriment of male and lower-class pupils, the "knowledge explosion," which has produced uncertainty over what content is most relevant as the possibility of knowing all things becomes less attainable than ever before—these and other factors have produced a need to appraise and update whatever is being taught

New math, English, and science courses can be better than traditional subject matter only if their content is more relevant to today's world and stresses more closely the basic structure of each discipline Thus, the new and the old in curriculum content must be dissected as never before in this fast-changing world, to separate the indispensable from the trivial, the relevant from the irrelevant, and the long lasting from the ephemeral Fortunately, solid steps are being taken not only to design improved curricula but also to develop the means for assessing them Examples of content studies are described below

Classroom Content Flow

What is the nature of instructional content in today's schools? How much and what kind of difference exists from classroom to classroom in concepts and information being stressed during classroom instruction? How accurate, up-to-date, and complete is such instruction? How relevant is it in relation to pupil need and awareness? How much time is spent on material that pupils already know?

Illustrative Study (based on Bellack, 1966)

Problem To describe and analyze the linguistic behavior of teachers and students in high school social studies to find out 'which participant teacher or student speaks about what, how much, when, under what conditions, and with what effect (Bellack, 1966, p 2) to discern the frequencies of various types of meaning represented in classroom discourse

Procedure Fifteen high school teachers were asked to teach a unit on international trade for four class sessions Although they were given copies of a pamphlet with an accompanying teacher's guide and were asked to base their instruction on it, they were also told to utilize whatever classroom methods they normally used and to teach in whatever manner they pre

ferred Pupils were pre and post tested with respect to knowledge included in the instructional material and attitudes toward the general subject of economics

Verbatim transcriptions were made of class sessions with the use of a tape recorder, a microphone being worn by the teacher and one being placed among the students An elaborate system was developed for coding these protocols of classroom discourse in terms of pedagogical moves, teaching cycles and categories of meanings For reliability purposes, independent coding teams achieved agreement ranging from 84 to 96 percent for all major categories of the analysis

Variables Measured (a) The speaker (teacher pupil or audio visual device) (b) type of pedagogical move (major categories structuring soliciting responding and reacting) and (c) content type The four major pedagogical move types were related to substantive meanings (that is, categories of specific subject matter topics) (d) substantive logical meanings (major categories analytic, empirical, and evaluative) (e) instructional meanings (for example assignment-giving) and instructional logical meanings (for example requests for a positive or negative rating) Both the number of moves and the number of protocol lines for each category and subcategory were counted and converted to percentages

Selected Findings (a) Although teachers were remarkably similar in their classroom methodology, structuring soliciting and reacting to about the same extent, they exhibited considerably greater variations in the substantive meanings expressed Of all the categories the greatest differences turned up in the actual topics covered in classroom discourse with respect to international trade Speakers referred to substantive material about three fourths of the time (b) The teachers talked three times as much as pupils in terms of lines spoken and one and a half times as much in terms of moves (c) Fact-stating and explaining accounted for 50 to 60 percent of the total discourse in most classrooms, whereas such substantive-logical categories as analytic (defining and interpreting) and evaluative (opining and justifying) accounted for less than 10 percent of the discourse in each instance

Curricular Materials Analysis

What virtues and vices are dramatized in school literature? What roles are portrayed in children's readers for women? Men? Boys? Girls? To what ideals do literary characters aspire? What values do they display? How representatively do stories display urban as well as suburban or rural settings, minority as well as majority racial and ethnic groups, lower as well as middle or upper occupational and social class levels?

Illustrative Study (Barnard 1966)

Problem To investigate the occupational roles of women as displayed in contemporary children's books available in a public library

Procedure All 911 books placed on library bookshelves labeled "grades

1 to 3 were examined briefly and 204 were selected for more detailed analy
sis that met the following criteria (a) were copyrighted since 1944, (b)
featured a contemporary United States setting (c) would be categorized as
realistic human fiction rather than fantasy or animal stories, and (d) dis
played female roles significantly Animal stories were excluded because
they tended to portray the stereotype housewife-mother, and "working
animal mothers seemed unlikely to be found in children's literature

Each of the 204 books was read and behavioral descriptions of the
women portrayed were copied onto cards for later classification and sorting
These behavioral descriptions were categorized according to the occupations
represented and examined for roles that were favorably and unfavorably
displayed.

Variables Measured Type and frequency of occupation of women char
acters

Findings Table 8 1 indicates the number of women in vocations portrayed
in the 204 examined books Each female character was counted once each
illustrative portrayal was counted once (for example, though many nurses
appeared in several of the books, the nurse category received only one count
per book)

Only 2 of the 204 books portrayed 'working mothers, and in both in
stances they were presented unfavorably 'My mother and my daddy both
work so there's no one at home to take care of me, except on Saturday and
Sunday' 'My mother helped me,' said Dick. Can't your mother help
you' She doesn't have much time, said Bill She's a nurse, and she goes
out to take care of people'

Learning Resources Inventory

Is a wide variety of up-to-date learning resources and teaching
aids readily available to pupils? Is space and time provided for proper
utilization of such resources? Do school resources duplicate or supplement
home resources? Are resources properly selected in terms of interests, needs,
and abilities of pupils?

Illustrative Study (hypothetical)

Problem To inventory the musical materials in a given music laboratory
and to determine their amount and type and usage

Procedure Make a list of musical instruments and materials in the music
area of the building keep an hourly log of usage over several weeks by filling
in a checksheet similar to Figure 8 4, which was constructed from the in
ventory

Variables Measured (a) Number and variety of instruments and mate
rials (b) number and amount of pupil usage

Expected Findings Some instruments are in short supply, others are sel
dom used Certain instruments are particularly appropriate for particular

TABLE 8 1   DISTRIBUTION OF FEMALE CHARACTERS
IN 204 CHILDREN'S BOOKS BY VOCATION PORTRAYED

		160
Homemaker		26
Teacher	1	
Married	18	
Unmarried	7	
No designation		15
Grandmother (domestic or idle)		12
Idle or indefinite		7
Sales clerk		4
Babysitter		4
Fair or circus woman		4
Maid		4
Nurse		3
Artist		3
Camp counselor and/or director		3
Librarian		3
Waitress		2
Bake shop proprietor		2
Milliner		2
Miscellaneous ('mother works,' business woman)		2
Seamstress		2
Secretary		2
TV show hostess		1
Ticket clerk		1
Auditory training teacher		1
Cotton picker		1
Dancer		1
Dancing teacher		1
Department store buyer		1
Factory worker		1
Horse trainer and shower		1
Movie star		1
Nursery and flower shop proprietor		1
Office clerk		1
Postmistress		1
Railroad block operator		1
Railroad leverman		
Stewardess		

Instrument or Material	Period	No and Grade of Users	Time Used, 5 Min Estimates	Totals No of Users	Time
Drums, bongo 1	8–9	3d graders (5)	35		
	9–10				
	10–11	5th graders (2)	15		
	11–12				
	12–1				
	1–2	4th graders (4)	40		
	2–3	2d graders (2)	10		
		1st graders (2)	5		
	3–4				
	Other	6th grader (1) orchestra drummer	20	16	125
Drums, bongo 2	8–9	3d graders (3)	35		
etc					

FIGURE 8 4 EXCERPT OF MUSICAL MATERIALS LOG

grade levels Suggestions for introduction, demonstration, and even instruction on instruments should follow the recognition of those instruments that receive least usage Musical activities might also be planned to promote wider usage of particular instruments and materials

SCHOOL ORGANIZATION

One presumed environmental influence that has been subject to much public scrutiny and frequent field study is school organization and administration For several decades, school survey teams, often located within schools of education of state universities, have been used extensively to study local school systems and make recommendations for organizational change. Frequently studies by outside experts are made at the time a new superintendent takes office, in order to provide greater impetus for particular alterations.

In high-quality field studies, extensive information is compiled with regard to the tax base for the system, along with population trends, teacher turn

over, budgetary items, administrative hierarchy, and other data highly relevant to the understanding of a particular school system Data are usually made meaningful by comparing them with appropriate data from other school systems and with state or national norms The literature on school surveys is extensive and beyond the scope of this review, although it is clearly recognized that many good suggestions for studying aspects of school organization are provided in this literature

There is little consensus on the key dimensions of organizational structure For this reason, two studies of the same institution may seemingly disagree when, in fact, their focus is only on different structural elements. By its nature, an institution is always larger and more complex than a study makes it out to be

Despite an incomplete understanding of organizational structure and an arbitrary exclusion of most school survey research from this review, several types of studies do merit consideration here because of their behavioral emphasis They relate directly to the behavioral dynamics of school personnel—pupils, teachers, and administrators—rather than to the relatively static data typically obtained in school surveys

School Rules and Regulations

What are considered to be the greatest infractions and most important regulations? What is most praiseworthy? For what offenses can pupils be expelled? What disciplinary measures does the school use? How consistently are rules and regulations enforced throughout the school from class to class, pupil to pupil? Who administers school rules and regulations?

Illustrative Study (hypothetical)

Problem To determine how consistently the punishment fits the crime and whether or not it is distributed impartially

Procedure Ongoing records are kept of all punishments that are handled outside the class situation All pupils who are sent to the office, to detention hall, or to some particular place in school for disciplinary reasons are listed sequentially by date and time The nature of the offense, the reporting person, the punisher, the specific nature of the punishment, including mere admonishment, are itemized in separate columns on the same log sheet

After data have been collected for several weeks log sheets are analyzed by (a) covering all columns except the offense column categorizing all offenses, and ranking them in order of seriousness (b) covering all columns except the punishment column, categorizing all punishments and ranking them in order of severity (c) tallying all offenses and punishments on a grid similar to Figure 8 5, and (d) identifying pupils who received severe punishment as contrasted to mild punishment for given offenses

Variables Measured (a) Type and seriousness of offense (b) type and

TYPE OF OFFENSE

TYPE OF PUNISHMENT	No sy	Gum chewing	Not paying attention	Class disturbance	Work not done	Late to class	Running in halls	Fighting
Expulsion								11
Privilege withdrawal		1				11	111	THl
Stay after school	1				111	1	THl	1
Home notification	1	1	1	THl	THl	THl 11	11	1
Admonish and warn		11	11	11		11	1	
Admonish	THl 1	THl 1	THl 1	111			11	1111
None	11	111	11					

FIGURE 8 5   SAMPLE OFFENSES AND RELATED PUNISHMENTS

seventy of punishment, (c) reporting person, (d) punishment administrator, and (e) reported pupil

Expected Findings (a) Only moderate correlation of rated offense seriousness with severity of punishment, (b) certain offenses followed by highly consistent punishments and others by highly inconsistent treatment, (c) more severe punishment when certain teachers or school authorities do the reporting than when others do it, (d) more severe punishment for certain pupils than for others (for example, the lower-class, poorer students would be likely to be more severely punished than good students from the middle socioeconomic class), (e) little correlation between frequency of offense and severity of punishment, and (f) individual differences among punishers (assuming more than one per school) in severity of punishment

Staff Roles

How is the time of professional and key staff personnel used in the course of institutional practice? Are highly trained personnel spending the majority of their time and energy on tasks that require high level training

or on relatively less sophisticated assignments? How much duplication of effort and dissipation of energy on tangential activities exists among a professional staff? How closely do actual role performances approximate organizational objectives?

Illustrative Study (Steele and Bottrell 1958)

Problem To determine the extent of participation of industrial arts teachers in community organizations

Procedure A community participation checklist was developed by modifying Pannwitt's list (1952) of community organizations so as to include those peculiar to the local scene and exclude others not found in the particular community involved. The checklist consisted of ten groups of community organizations (examples Welfare Avocational Interests) with ten organizations listed for each group (women's church group garden club) The checklist was arranged so that after each organization the respondent merely circled one of six degrees of participation (none member but never attends attends fewer than one-fourth of meetings attends about half the meetings attends more than three-fourths of meetings attends all meetings) and circled another symbol if he were an officer or board or committee member

The checklist was given to 90 industrial arts teachers in a large metropolitan area. Although their names were not requested a few items of personal data such as marital status were inserted to determine whether or not community participation was related to such factors A simple point count based on membership extent of participation and leadership indication was made for each respondent and readily converted into membership and participation indices

Variables Measured (a) Type and extent of membership (b) extent of participation and (c) leadership indication

Findings Less than one-third of the organizations accounted for two-thirds of the teachers reported participation Approximately one-fourth of their participation took place in religious organizations

Three types of organizations enrolled almost all teachers, namely *professional education* (91 percent), *adult education* (72 percent) and *religious institutions* (100 percent) In only two groups of organizations (religious and recreational) did these teachers seem to hold leadership positions Although there was considerable variation in the extent of participation indicated by these teachers in various organizations only nominal membership and low participation was indicated in most organizations by the majority of teachers

Effectiveness

What evidence exists that pupil learning and behavior objectives have been met? How well do graduates do in the next school they enter? In handling jobs? In entering careers? What impact do special programs deal

ing with such matters as drugs, sex, and good citizenship really have on subsequent pupil behavior? What proportions of the student body participate in various extracurricular programs? In what ways is the school serving and not serving the various subpopulations of youngsters in attendance?

Illustrative Study (Havighurst et al , 1962)

Problem To predict on the basis of a number of measured characteristics and then determine how well a sixth-grade student population succeeds in high school, college, marriage, and work life, to find out which youngsters become delinquent, which do very well in school, which go to college, which drop out of school, and which marry early

Procedure The entire community's sixth-grade public school population in 1951–1952 (about 400 children) were studied intensively with a variety of measures, and their subsequent school and out-of-school careers followed over the next several years until they became young adults To this original group were added another 87 youngsters who joined this class prior to or during the ninth grade

Achievement and intelligence measures consisted of the regular group tests and teacher grades already in use by the schools A standardized personality test and a sociometric instrument constituted the primary other measurement devices that youngsters were asked to fill out in order to keep the overall testing program reasonably limited Teachers filled out a Behavioral Description Chart[4] on each youngster in order to gather additional data regarding pupil leadership, aggressiveness, and withdrawal tendencies Some art assignments were standardized in order to obtain similar products that could be rated for artistic ability One of the most important variables, social class was measured by use of the Index of Status Characteristics (Warner et al , 1960)

In order to gather data regarding pupil-development patterns during adolescence and early adulthood, the cooperation of various community officials was obtained Clergymen indicated on lists of names which youngsters attended their churches The police made juvenile records available for analysis Employment records were consulted and high school and college progress noted Additional testing was accomplished during junior and senior high school Most important of all, the youngsters were interviewed occasionally during their adolescent years to find out what they were doing and how they felt about various matters

Variables Measured (often several measures of each were used) Potential predictors intellectual aptitude, artistic ability, academic achievement, leadership, social class, aggressive and withdrawn maladjustment

Criterion variables of adult development tendency toward early marriage, delinquency, church interest amount of education, marriage success, work adjustment, school progress, adult status.

4 Described in Chapter 4, p 127

Selected Findings

(a) Correlation of IQ with social class was +0 34 for boys and +0 28 for girls

(b) During junior high school, 45 percent of the academic grades made by youngsters coming from the elementary school serving the middle-class section of town were A's, whereas not a single A was earned by a young ster from the predominantly lower class elementary school None from the former school failed any eighth or ninth-grade subjects, whereas the average number of subjects failed by pupils from the lower-class school was one in the eighth one and a half in the ninth grade

(c) Aggressive youngsters failed twice as often as the average pupil, and withdrawn youngsters failed three times as often

(d) Only 3 of 92 youngsters identified as the most maladjusted on various scales eventually entered college

(e) Youngsters who failed tended to fit one of three stereotypes (1) aggressive, low IQ boy; (2) withdrawn low IQ girl (3) disinterested in school but has ability

(f) School progress was highly related to social-class membership, with higher social-class youngsters tending to complete high school and enter college in greater proportions than lower-class youngsters Most of the lower class youngsters dropped out of high school before completing it

(g) Progress through school was related to social-class standing, personal adjustment, motivation toward education and intelligence A special study of school dropouts, matched for IQ and social-class membership, found them to have less clearly defined goals, hold fewer part time jobs be less self-supporting and more maladjusted than youngsters who stayed in school

(h) Based on ratings and extent of contact with the police, youngsters who were most delinquent tended to have the highest maladjustment scores and poorest academic records

(i) Approximately three-fifths of the youngsters were known by one clergyman or another and about a third were thought to believe that church played an important part in their lives When matched by social class and IQ, only 22 percent of the youngsters who were staying in school were unknown to the clergy, whereas three times that many of the school dropouts were unknown to them

(j) Girls from the lower social class, especially those of lower intelligence tended to marry earlier than youngsters of higher social classes and higher IQs Girls who married early tended to be more maladjusted and have poorer school records than those marrying later

(k) Poor school performance tended to be predictive of poor work ad justment, with some notable exceptions

In brief, many of the youngsters growing up in River City found school an uneasy, uncertain path to adulthood. Experiencing little success in high school, many quit school as soon as they could do so Yet, the outside world was no more hospitable The school dropouts could get only the poorest

jobs, if any at all were open to them Compared with other groups, they
were most often in trouble with the police They tended to have the least
successful marriages The churches saw very little of them

Through such careful studies of ongoing operations, a solid basis for
institutional improvement can be laid in the precise identification of strengths
and weaknesses, failures and successes Only if solid data are procured with
regard to what is really happening and how well expectations are being
met, are operational modifications likely to be targeted accurately and con
sistent improvement made The studies presented in this chapter and in
Chapter 7 are illustrative of the many ways human behavior can be studied
in everyday institutional settings, with the ultimate aim to improve those
settings as a result of what is discovered.

CHAPTER 9

The Observer
and His Tools

Mankind cannot long permit behavioral sciences to develop more
slowly than other sciences The world is shrinking faster than even its
explosive population growth would suggest Rapid changes in transportation
and communication have brought men closer together than ever before
while highly specialized commercial and industrial practices have made them
increasingly interdependent Depletion of the world's resources is taking
place at accelerating rates placing before mankind the challenge of controlling its material appetites if these resources are not to be exhausted

As a result, the need to understand the forces that shape behavior has
become critical It is imperative, furthermore, that man's institutions be conducted in ways that enhance his effectiveness and well being, encourage him
to work harmoniously with his fellow man and permit him greater control
of his own destiny While the sciences pertaining to human behavior have a
short history, barely stretching back to the turn of the twentieth century it is

now evident that their rapid development and increased application to the
problems man faces in the years immediately ahead are essential if he is to
control the forces he has unleashed

Fortunately, not only is the time ripe, but also necessary resources are
available for a substantial expansion of behavioral science activity Through
the press other mass media, and especially the school, a generation of people
has had exposure to the preliminary concepts and findings of psychology,
sociology, and other behavioral sciences, enough perhaps to sensitize people
to the possibilities for improved living patterns resulting from the application
of such understandings In addition, a virtual army of well trained behavioral
scientists now exists, capable of providing leadership in applying these
understandings to human affairs and in generating a solid empirical base for
these sciences

The tools of these new sciences are already impressive even though, by
and large, their use has been restricted so far to the laboratory and a few
isolated field settings The potential exists for a much greater application to
field settings under the guise of routine institutional analysis A wide assort
ment of illustrative studies were presented in Chapters 6, 7, and 8

The basic conceptual tools and methodologies for natural setting research
were described in the early chapters of this volume They were drawn from
a variety of disciplines, from sociology to industrial psychology, management
engineering to psychoanalysis, and child development to education The
techniques for studying human functioning in a great assortment of settings
are readily available

Perhaps most lacking in establishing the behavioral disciplines as mature
sciences is an encyclopedic mass of descriptive detail about how *Homo sapi
ens* behaves in a vast array of settings and conditions (Barker, 1969)
Laboratory and field studies conducted so far have been too few and too
scattered to predict with much certainty what behavior is likely in the circum
stances of ordinary living These studies need to be replicated in numerous
institutions to determine how far their findings can be generalized Empiri
cally derived institutional norms need to be published so that handbooks can
be constructed describing how clergymen and laymen, doctors and patients
managers and workers teachers and pupils and a host of other institutional
practitioners typically conduct themselves Without such an encyclopedia
of behavior, it is difficult to know how well particular patterns conform
with the average

Facts currently available are either demographic in nature, consisting of
numbers of people by age sex, race, occupation, social class and other
relatively static characteristics, or they come from superficial survey informa
tion obtained via questionnaire or interview from small, though frequently
carefully selected, samples of people Similar samples of actual behavior
patterns are almost nonexistent

Although not based primarily on observed behavior, a few notable attempts have been made to obtain from a broad population of people more elaborate descriptive details about important areas of human functioning. The classic investigations by Kinsey and his associates (1948, 1953) of the sexual patterns of human males and females certainly represent such an attempt, although their sampling and interviewing procedures have been subjected to criticism. More recently, a national sample of 440 000 adolescents was given an extensive battery of 60 ability tests, over 30 noncognitive measures, and about 400 items of personal history, family background and educational and career plans with the intention of continuing assessment into the adult years (Flanagan et al, 1962). A massive data bank is now available for additional research on these youngsters covering their school progress and a host of developmental characteristics.

Anthropologists have provided the best examples so far of behavioral surveys based essentially on observational data. Whiting and Child (1953), for example, conducted a pioneering, cross-cultural investigation of child training and personality patterns by examining an extensive collection of observational data provided by anthropologists on 75 societies. The uses to which photographic techniques have been put in anthropological field studies are reviewed by Collier (1967).

Using a variety of methods, Goodlad et al (1970) recently studied 158 classrooms in 67 schools, to determine the extent to which certain frequently prescribed educational ideas were actually being practiced. Classrooms were visited, various characteristics were rated, and anecdotes were written to provide systematic coverage of such matters as instructional content materials and methodology, classroom organization and management learning opportunities, and evaluation practices. Class schedules and other school documents were examined, and teachers and administrators were interviewed.

From the specific findings of this group, such conclusions as the following were drawn (Goodlad et al, pp 97–98): (1) Many widely recommended educational improvements were not really taking place. (2) Even though many teachers thought they were providing individualized instruction, encouraging inductive learning, and using group dynamics principles, observable evidence that these innovations were being practiced was seldom found. (3) 'Special' supplementary and enrichment activities differed very little from ordinary class activities. (4) Classroom goals were usually not identifiable to observers, and instruction was seldom directed toward the diagnosed needs, progress and problems of individual children. In brief, classroom instruction was being conducted along very traditional patterns.

Until a considerable amount of purely descriptive investigation occurs one can only guess at how widespread particular practices are or how likely

study is needed to provide normative data, without it, real improvement in institutional operations is unlikely The Goodlad study cited above is a case in point Unless attempts are made to gather precise data from institutions in question, improvements are likely to be haphazard and undiscernible Increasingly, institutional management is being held accountable to its sponsors for demonstrating how well objectives are being met and for assessing operational costs

Business provides the traditional accountability model, with sales records and earnings statements the prime indicators of success and failure The model has been extended recently to include human resource accounting by calculating the cost of recruiting, hiring, and training employees and by recognizing people as dollar assets (Pyle, 1970) It is being applied increasingly to the field of education through criterion referenced measurement and performance contracting An entire recent issue of the professional education journal, *Phi Delta Kappan* (December 1970), for example, was devoted to such practices

Dehumanizing as these trends may seem at first glance, there is no reason to believe that such important human qualities as motivation and morale cannot be included in whatever dimensions are assessed There is nothing to suggest that these qualities run inherently counter to the profit motive Quite the contrary—gearing institutional operations to the natural motivations of people and improving morale can also make for a profitable business

Increasingly, business standards are being applied to the school, the hospital, the church, and other public service institutions The real challenge in these applications is to be able to supplement readily available cost information with solid data regarding operational efficiency and the quality of resulting products For the schoolman, this challenge means obtaining tangible evidence of pupil learning in line with a broad set of instructional objectives

One of the purposes of this volume is to show that many of the human dimensions to be concerned about are indeed measurable as a result of past and current developments in behavioral science methodology It is certainly time for this methodology to be applied to institutional analysis on a routine basis The accountability model should be accepted as a challenge, not a threat, for the improvement of human institutions

As has been pointed out above, the personnel and tools are available. What is most lacking at this point is a major commitment to the task Commitment consists primarily of (1) assigning suitable personnel to do the job and (2) giving them the resources to carry it out Industry has long employed specially trained personnel (industrial engineers, systems analysts management consultants) to study operations routinely and recommend changes as appropriate In most instances, they have been provided with

the tests, chronographs and other equipment needed to accomplish their assignments

It is time that education and other public service organizations follow a similar procedure This volume will conclude therefore with a plea for such specialists and for the necessary resources to carry on similar activities. Illustratively the focus will again be on the school and the kind of specialist needed for studying its operations and the products of learning

PUPIL DEVELOPMENT SPECIALISTS

What is needed to put in-school research on a routine basis so that school decisions can be based to some extent on hard facts are special ists trained and assigned especially to this job Teachers cannot do it they are too busy running the show Counselors school psychologists and supervisors each have other tasks to perform which preclude their conduct ing extensive research What is needed is someone whose major responsibility is to study what is going on in a given school gathering and processing solid data about pupil development and about those factors that assist or impede it

Too expensive? Schools often employ a curriculum specialist frequently designated vice principal Is there not money to add one more specialist whose expertise is child behavior and development and whose task is to know rather precisely what is happening to the school population? If pupil learning and development are the end products of education should there not be quality-control specialists to assess how well these products are being built? With a modest addition to school staffs a critical function could be performed that up to now, has seldom been attempted This recommended position would seem justifiable purely on the basis of the numbers of children that could be served especially if compared with the number receiving help from visiting teachers speech therapists, nurses and many other accepted specialists

Just as industrial and commercial institutions have built-in analysts to gather operational data routinely as a basis for administrative decision mak ing so even are many sports and recreational events covered In official scorers and record keepers Not only does the umpire or referee see that games are administered according to prescribed rules and regulations bu his on-the-spot decisions regarding whether a batted ball is in or out of bounds for example represent the official categorizations of events. In addition officially designated scorers record the events compiling and reporting the resulting statistics so that they can be studied systematically at a later date by coaches players and even interested spectators. Are not

schools as important as baseball or football teams, and should they not have officially designated scorers and record keepers?

Preliminary experimentation with persons in such a role has been attempted in recent years by Brandt (1969) and Brandt et al (1971) with rather promising results. In the most extensive tryout of this pupil-development specialist role,[1] as it was designated, two persons were assigned as regular observers of four classes of school children for 15 hours weekly throughout the year.

Their first task was to learn the names of youngsters well, to familiarize themselves with the teachers' general expectations and classroom routines, and especially to become accepted and neutral classroom fixtures. They accomplished the latter task in much the manner described in Chapter 4 (pp 143–145), namely, by stating that their purpose was to learn as much as possible about how classes were conducted, answering questions about themselves briefly but in a friendly manner, and striving to become uninteresting as soon as possible. They took preliminary notes about class activities, focusing particularly on what the teacher was doing, so as to lend credence to the notion that they were interested primarily in educational processes. They remained nonevaluative with respect to any questions asked of them about particular happenings to which they were witness, and they guarded against becoming informers for the teacher regarding any misbehavior they might have seen.

With respect to the teachers, their observational and reporting role was one of merely recording in nonevaluative ways what was going on. Their official position was identified as information gatherers and processors, especially with regard to questions the teachers raised. Interpretation of their findings was left largely to the teachers once they had organized material in tabular or graphical form for them. The place of the PDS in the overall educational system is diagrammed in Figure 9 1. For data gathering they resorted primarily to methods outlined in Chapter 4, using a variety of checklists and observational recording patterns.

Among the studies they conducted were the following

1 Pupil talking during seatwork while teacher was busy with reading group Illustrative findings (a) Frequency of talking averaged under 7 percent in two classrooms and 10 percent in another, (b) better readers talked significantly less than poorer readers (correlations were -0.32, -0.22 and -0.32 between standardized test scores and frequency of talking measures) (c) after seating assignments were changed by teachers less overall talking occurred, but certain children continued to talk excessively in their new locations

2 Pupil attention during filmstrip presentations in science Illustrative
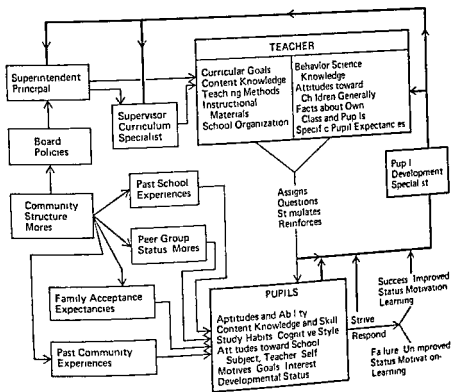
FIGURE 9 1 SCHEMATIC DIAGRAM OF THE ROLE OF THE PUPIL DEVELOPMENT
SPECIALIST Light arrows indicate traditional communication pat
terns and heavy arrows represent proposed patterns (BRANDT 1969)

finding Considerable variation in attentiveness was found among children
and across filmstrips

3 Types of class activity and teaching methodology being employed
Illustrative finding Marked differences were found among teachers and
across subject fields, with pupil reporting and project work characterizing
science and discussion taking up the greatest amount of time in social studies
Following inspection of data describing how much time had been spent in
various ways, teachers altered their instructional patterns considerably

4 Racial composition of lunchroom seating and "walking home" partner
ships Illustrative finding Although the third-grade class studied contained
only 41 percent Blacks, 69 percent of all contiguous lunchroom seatmates
for Negro students over a three-day period were also Blacks (Edwards,
1968)

These early trials tend to demonstrate the feasibility of the PDS role and
to support the general recommendation of Kounin, Gump, and Ryan
(1961, p 246) when they state

Researchers should get into the classrooms, and teachers and administrators should let them in   The locus of educational practice and the point of application of learning theory or group dynamics theory or other psychological theories is the classroom with a teacher in charge of a group of children or adolescents And what we know of teachers or students, separately or together, must be relevant to this basic context if it is to be of benefit to those doing the job

OBSERVER CHARACTERISTICS

Without repeating all specific suggestions regarding the role of observer made earlier in this volume (in the preceding description of the PDS tryouts and in Chapters 4 and 5), the overall qualities of successful naturalistic researchers might well be summarized once again

The naturalistic investigator is most basically a measuring instrument for recording the responses of other people in situations he finds them in or that he defines in connection with particular research questions To make it possible for him to be an effective instrument, he must act in certain prescribed ways and possess certain general qualities

He needs to be very clear about the roles that he assumes and their impact on the groups he is studying He must be especially clear in distinguishing between his role as a participant and that as a researcher

Lutz (1968) itemizes four combinations of these two roles First, a person can be a *regular participant* in a group that he reports on at a later time This is generally considered poor research procedure because of its retrospective quality

Second, a person can be both a *regular participant* and a *systematic observer* His regular role in a group under study permits him access to material that is unavailable to an outsider He takes advantage of his participant status to make notes and keep other records of the group's activities The recommendation that school systems employ PDSs represents an attempt at giving systematic observers regular participant status

Third, a person can be primarily an *observer* with only limited *participant* status, that is, he has some degree of planned influence on the activities of the group The pupil development specialist more nearly illustrates this combination than that of the participant-as-an-observer

Fourth, one can be only an *observer* without the group even aware of his presence The use of one-way screens, hidden tape recorders, and observation generally from hidden vantage points makes it possible for researchers to monitor activities without detection of their presence

Obviously there are advantages and disadvantages to each combination When one is an active participant, he can procure much information that is

unavailable to the outsider In such instances however it is not always possible to isolate the researcher's influence on the group which is likely to be somewhat different from an ordinary participant's influence because of his research interests It is imperative that the researcher include his own participant behavior in any data gathering he attempts and analyze this separately as a partial control of this variable

Where one is primarily an observer and the group knows it is being studied (probably the most common combination) various precautions are urged First the observer's general purposes must be known and accepted at least by key authorities within the group Whyte (1955) was able to penetrate Street Corner Society only by clearing his intentions first with its principal leader Doc The managers of the firms studied by Dalton (1959) gave him general clearance to conduct research activity although as an employee he also had a natural participant role that gained him admission to a number of departments which otherwise might have been closed to his inspection In addition Dalton made extensive use of informers who were already regular participants in segments of the company's operations to which he himself had only limited access One theoretical advantage of the observer-as-a-participant role over the regular participant role is that he has less prior knowledge about the group under study Presumably he can be more objective about what he sees He must still recognize the fact of course that whatever biases he does hold are likely to affect his research observations

Because of the potential and often indistinguishable influences of the observer in any of the first three participant-observer combinations more investigations than in the past need to be conducted by observers whose presence at least as a researcher is unknown to the groups being studied In such instances, the investigator must have all the mannerisms of a good spy If his identity is revealed he no longer will be in a position to see all that occurs His informers will become cautious and his data sources somewhat limited

Obviously naturalistic investigation poses grave ethical problems Invasion of privacy is only the most apparent of the ethical issues raised Although many steps can be taken to resolve these issues satisfactorily the most fundamental overall obligation researchers must assume is the preservation of subject anonymity in the processing and reporting of data Other ethical considerations and protective measures were thoroughly discussed in Chapter 2.

Sherif and Sherif (1964 p 110) point out the special character of social situations in which one person is a recognized "scientific investigator" and others are subjects These authorities stress the fact that perhaps unconsciously human subjects wish to perform well in a research endeavor if they

have agreed to being included in the investigation, and they are likely to alter their customary behavior accordingly

In their studies of adolescent group behavior, Sherif and Sherif attempted to eliminate this awareness of being studied by having observers infiltrate groups without revealing their research intentions. Suitable observers were chosen, who could quickly adapt to the way of life of the particular groups to be studied. Observers were similar to group members in speech, dress, apparent interests and mannerisms. They were slightly older, however, in order to avoid becoming too closely identified with their groups and to evade having to compete for 'standing' in the eyes of regular members.

In order to protect their incognito research status, the only notes observers would make in the presence of group members were a few symbolic notations that could be jotted down occasionally while keeping score in a game, taking minutes, or performing some other legitimate writing function. All other notes were written privately as soon as possible after leaving the groups. While many interaction details were lost because of this recording limitation, the investigators felt that 'recurrent events in different groups reported by different observers, cross-checked through independent techniques for data collection, would provide more relevant data in the long run than detailed accounts or records of single interaction episodes under artificial conditions' (Sherif and Sherif, 1964, p 117)

To gain admittance to groups, investigators developed a pretext for their presence in a location that tended to bring the boys to the observer. One overweight observer, for example, began working out in a slum play area in order to lose weight. The boys soon asked if they could play with him and his new ball. Another observer became 'very fond of charcoal broiled hamburgers' at a particular drive-in restaurant and of folk music at a popular teen-age coffee house. His new and expensive car caused youths who were there to ask him about it, whereupon he responded obligingly by letting some of them drive it. Many observers pretended to be students receiving credit for experience in recreational sports activities.

The general guidelines for gaining acceptance and establishing rapport were as follows (Sherif and Sherif, 1964, p 121)

1 To insure by word and deed that group members are aware of his lack of authority in the situations where they were together

2 To appear in word and deed as a "bigger brother" who is interested in them, wishes them well and may be helpful on occasions

3 To avoid any signs of dislike or disapproval of any member, on the one hand or signs of "favoritism" on the other

4 To avoid suggesting or initiating activities for the group unless such activities are deliberately planned as a part of the research design

5 To be helpful in activities initiated by group members without display of skills, which would put the observer in a rivalry situation for status with group members

In situations where the observer's research activities are apparent to the group, other precautions are necessary In the PDS studies reported above, for example, time was an important factor in being accepted The longer the specialist was present in an unobtrusive, nonthreatening manner the more his presence was taken for granted During their first days in the classrooms these observers were asked by several pupils to provide instructional assistance or grant permission during times when the teacher was busy or out of the room It was only after several attempts to put them in a teaching role—had been gently turned down with such remarks as, "I really don't know—You'll have to ask your teacher," that they became accepted as part of the classroom furniture

When one is watching others, the targets inevitably wonder what the watchers are thinking Making notes or checking forms only adds to this natural concern It is imperative, therefore, that observers let those being studied have some knowledge of what they are interested in while altering the natural situation as little as possible It must be made clear that the observer is not present to make judgments of how well or poorly the persons being watched are performing their jobs Practitioners must be assured that their ability to do their jobs is not being questioned and that the observers task is one of gathering information which ultimately may be useful rather than damaging to them

It should be made clear, therefore, how information obtained is to be used who is to receive observers reports, and how potentially identifying information is to be disguised in such reports so that practitioners can be made to feel they will not be evaluated personally on the basis of the observers data These reassurances should be operations-centered, that is, focused on the facts that can lead to institutional improvement and assistance for the practitioners in carrying out their assignments

Not only should verbal reassurances be made, but opportunities should also be provided early for practitioners to see the kinds of data being collected and to discuss their subsequent reactions Thus, the observer tries to assume a team member status with the practitioner, in which both together are interested in the same thing (understanding and improving institutional operations), while demonstrating respect for the practitioner's unique position as the person responsible for carrying on the operation

Not only must the observer seek to build a mutually trustworthy relationship, but he must also do it in a manner that does not nullify the opportunity

to test his major hypotheses This admonition means that he often must not tell the practitioner too much about what he is after if he is to keep the latter from altering his behavior accordingly Perhaps the underlying principle to be followed in this respect is to let the practitioner know one's general research purposes and promise to give him a full account after the study is completed

In every instance, of course, explanations and promises should be consistent with subsequent actions Only if this latter principle is followed religiously will the observer be functioning ethically and fostering a general respect for researchers among institutional personnel Behavioral scientists need to be very cognizant of a continuing need to nurture the trust that society grants them A general objective of all researchers should be to increase receptivity for additional research The naturalistic observer, then, should think through rather carefully what he can say to his subjects that will be reassuring and honest, will not jeopardize his basic design, and will be consistent with what he does with data when the study is terminated

In addition to his role in gaining admittance and establishing necessary rapport with his research subjects, the naturalistic investigator should possess a number of other virtues Only a few of these will be highlighted at this point because this entire volume provides information with regard to the kind of skill and knowledge he needs

Suffice it to say by way of summary that the greater his knowledge of the conceptual and methodological schemata of behavioral science, the more research possibilities he will see The naturalistic setting is a complex one, with many more phenomena to be uncovered than one has time or resources to find Many types of variables are operative and many conceptual schemes are applicable The researcher needs to be aware of the numerous possibilities for collecting data, most of which were presented in Chapters 4 and 5 He needs to be able to select problems worthy of study and generate a design for doing so in a systematic, scientific manner The numerous examples provided in Chapters 6, 7, and 8 demonstrate the manner in which a wide assortment of questions, focusing on a great variety of variables for which valid standardized measuring instruments are virtually nonexistent, can indeed be studied rather rigorously under natural conditions

The naturalistic researcher's chief area of expertise is observation methodology Knowledge of statistics and research design, skill in test administration and interpretation, and ability to construct questionnaires or conduct interviews are helpful adjunct qualifications but the primary data for studying human behavior in natural settings can be obtained only by observation It is essential that the naturalistic researcher become expert in his knowledge and skill with respect to a wide variety of observational techniques

EQUIPMENT

Though still limited in relation to other kinds of data the use of observational data in behavioral science is increasing at a rapid rate A comparison of Wright's comprehensive review of observational methodology in 1960 with the current taxonomy presented in Chapter 4 shows some expansion in both the variety of data and the kinds of settings where such data are being collected

Recent developments in recording tools furthermore make possible the accurate collection and processing of much greater amounts of observational data than was possible earlier Battery powered tape recorders and videotape cameras represent only two of the major instruments available today for procuring the narrative type of data expeditiously and accurately Interaction recorders mechanical timers and counting devices provide observers with tools for gathering great quantities of checklist data on the spot as events are unfolding

Herbert and Swayze (1964) describe in rather precise detail a number of wireless observation devices which they have field tested for making on the spot reports of classroom events while simultaneously recording the conversations of teachers or target pupils Figure 9 2 shows the quality of data collected in this manner after they have been transcribed

The basic equipment for obtaining such data are (1) a small wireless transmitter microphone to be worn by the teacher or other target person (2) an FM receiver-stereophonic tape recorder to be placed up to 50 feet away from the target person in another room if necessary and (3) a second observer Conversation of the target person and those near him is recorded on one track of the stereophonic machine by having the receiver tuned to one track of the stereophonic machine Meanwhile the observer describes the exact frequency of the transmitter Meanwhile the observer describes the ongoing events on the other track With a four track stereophonic machine other persons can also be recorded on separate channels of the same tape with near perfect synchronization

The chief advantage of such a system is that the observer is able to record faithfully conversation that is often inaudible to him or that even a strategically placed open microphone might not pick up because of surrounding noise while at the same time providing whatever descriptive commentary is necessary for later reconstruction of the event When worn by the target person in a pocket clipped to a belt or hung around the neck, the wireless microphone does not restrict his movements Even football quarterbacks have been able to play games wearing such devices Meanwhile the observer can speak softly into his microphone so as not to disturb persons only a few

Time	Index No	Teacher/Students	Observer
9 min	W73	What we started yesterday, I believe, was the way for us to use the same methods as historians use and we chose to call it a scientific method. Today I would like to show you what I think, is a way for you to think about your language. I have up on the board here a group of words. What do they all have in common? Raise your hand please	Teacher is in front center facing the class. One of the pupils in the back row seems to be doing something—crayoning. All the others are looking at the teacher. One child is swinging his feet at the teacher. One child is swinging his feet, two children are writing, their feet another child in the middle of the room is sharpening a pencil. Teacher gestures toward the blackboard He has a visible smiling face and makes large gestures. Four or five children volunteer T nods to one B2
9½ min	W77	S They are all more than one thing We call that what? Leonne? S (no reply) S fon? T O K The words are all plural and if they are not plural and they mean one thing what do we sometimes call them? S singular T O K Singular Now, yesterday I said that one thing was to go through was the first steps that we had to do what?	Teacher now moves to the left center of the room. He points to three lists (of words on the board from here) Student D3 (the answer is inaudible from here) No volunteers D4 The words are, downwards in the rows. Boys chairs fish feet trains oxen mice. second row down mits is shorts sheep and the girls dresses tables suits The girl D4 who third row is pens pencils and was called on with just answered volunteers and nods
10 min	W82	S (are.) T First step Paul? S Ask a question T All right Ask a question and then allow you to do the question for you and then allow you to do It's always easier our language? Now I plurals formed for words say I like to let those know you all have defined in your head and ids is just sort of roll around in your mind. What would you can use them in a few minutes. What would be the second step here is in this? After we have the problem. How are plurals formed?	Teacher looks around the room writes Three children volunteer Teacher calls on one of them a boy, A2 Teacher smiles and nods All pupils look at the teacher Three children volunteer Two now, A2 and C3 While he talks the teacher turns around and writes on the board How are plurals formed?
11 min	W91	What would be the second thing that we might try to do?	He is clearly audible from here

Equipment

feet away, without having to take his eyes from the event he is describing to make notations on a record form

As with all narrative data the most obvious disadvantage is the labor and expense of transcribing taped material Even for a competent transcription typist who uses foot controls to stop and start tapes it takes up to 15 times as long to produce a written record of a lesson similar to that in Figure 9 2 as the lesson itself took However, the high quality of resulting data especially as compared with other kinds of narrative descriptions may be worth this heavy transcription expense There is no question that much greater accuracy and completeness of recording can be obtained with such relatively simple electronic equipment than by the traditional anecdotal recording of a single observer Even the use of an ordinary tape recorder by an observer or practitioner can provide only limited description of ongoing events

Behavior instrumentation is discussed frequently in professional journals (for example, Schwitzgebel, 1968 1970) A comprehensive review of the instrumentation already in use would fill a book by itself Instead of the task being attempted here, only an illustrative list is presented below to show the possibilities inherent in modern instrumentation

Instrument	Behavior Measured
Clapmeter	Audience reaction
Military night observation gear	After-dark pedestrian activity
Closed-circuit TV cameras	Customer attention to product displays
Pupillograph (eye changes)	Reader reaction to book content
Television meters	Programs watched
Pedometer	Motility
Electromagnetic marihuana odor detector	Pot smoking
Walkie-talkie equipment	On the-spot event reporting
Actometer (self winding wrist watch adapted to record human movement)	Activity level
Wrist type golf score counter	Event frequency
Miniature, portable timer	Provides signal for making observation
Magnetometer	Amount of iron and steel in air plane passengers luggage
Graphic recorder	Duration of continuous behavior sequences
Polygraph	Minute body changes during interrogation

Obviously, for on-the-spot coding, limits are established on the amount and kind of data that a single observer can obtain by the number and kind of discriminations he can make in a given situation Discrimination ability, of course, varies with the training of observers as well as any competing roles they might have to play while they are observing The use of automatic timers, carefully designed recording forms, and other mechanical aids can raise substantially the quality and quantity of information one can procure

Great strides are being made not only in the development of observer equipment but in data processing equipment as well It is practical to code behavior directly onto computer tapes Programs can be developed, further more, for computer analysis of narrative data merely by providing print-outs of recurrent words, phrases, and even themes The observation specialist of the future will have to be well versed in the technology of both data collection and data processing if he is to take full advantage of the possibilities

With the emergence of a new and sophisticated technology, the full poten tial for naturalistic study is just beginning to be recognized As observation specialists, well steeped in the theories and methodologies of behavioral science, begin to perform regular research functions within regular institutional activ ity, new horizons should open up in man's understanding of man Only as this development takes place will institutional decision making be given a scientific base and will behavioral science itself achieve maturity

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